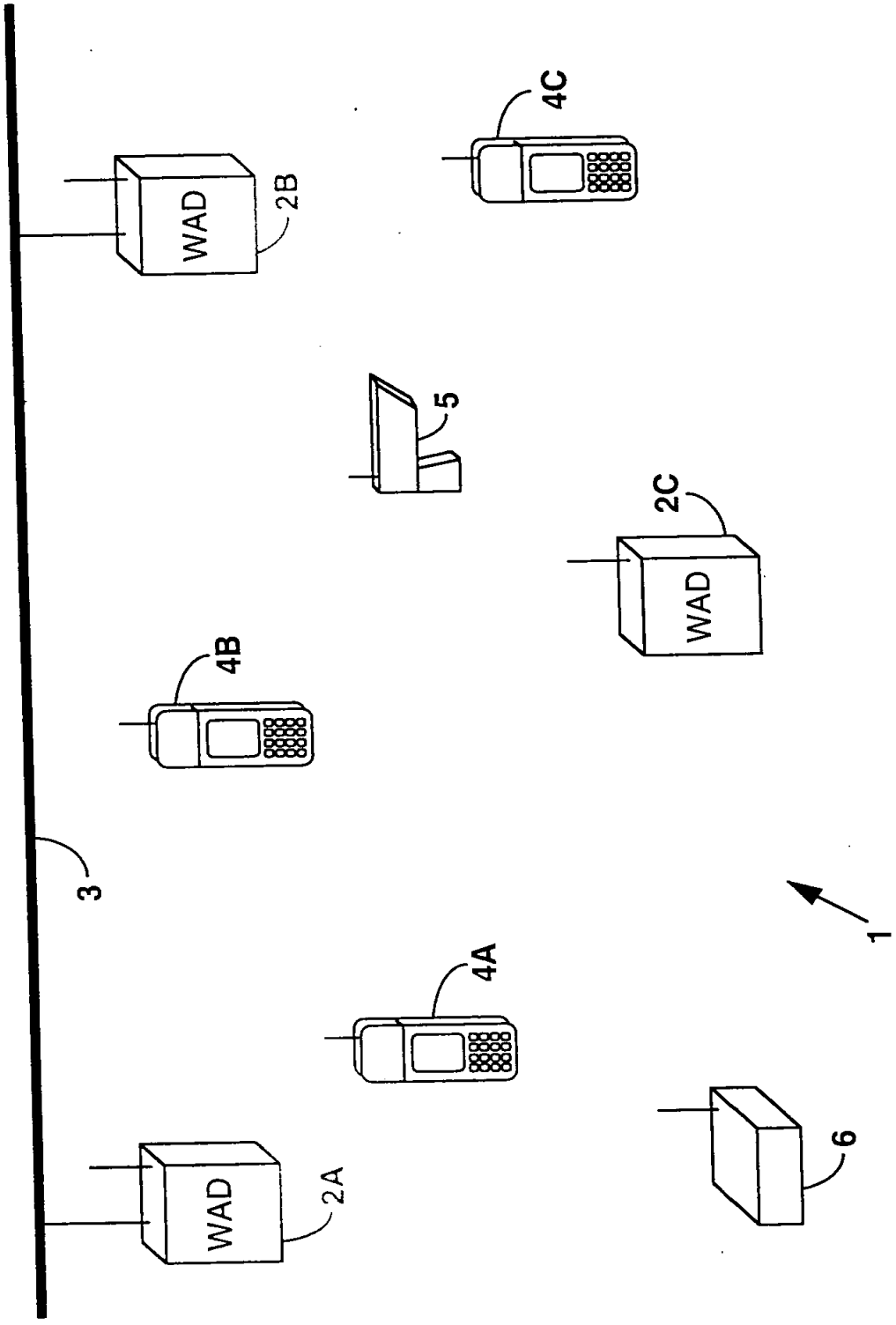

FIG. 1A

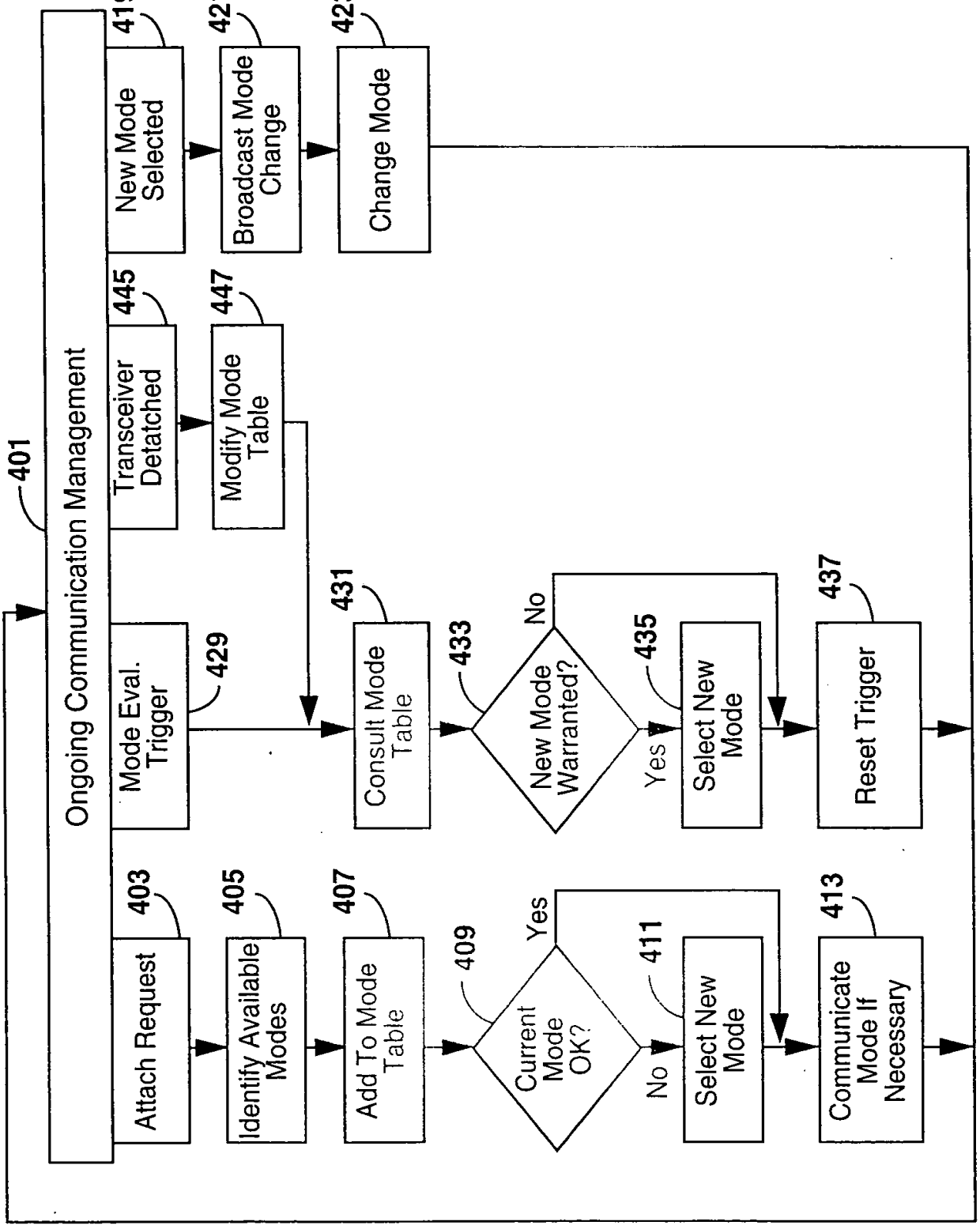
401
Ongoing Communication Management
Attach Request
403
Identify Available Modes
405
Add To Mode Table
407
Current Mode OK?
409
Yes
No
411
Select New Mode
Communicate Mode If Necessary
413
Mode Eval. Trigger
429
Consult Mode Table
431
New Mode Warranted?
433
No
Yes
435
Select New Mode
Reset Trigger
437
Transceiver Detatched
445
Modify Mode Table
447
New Mode Selected
419
Broadcast Mode Change
421
Change Mode
423

FIG. 1B

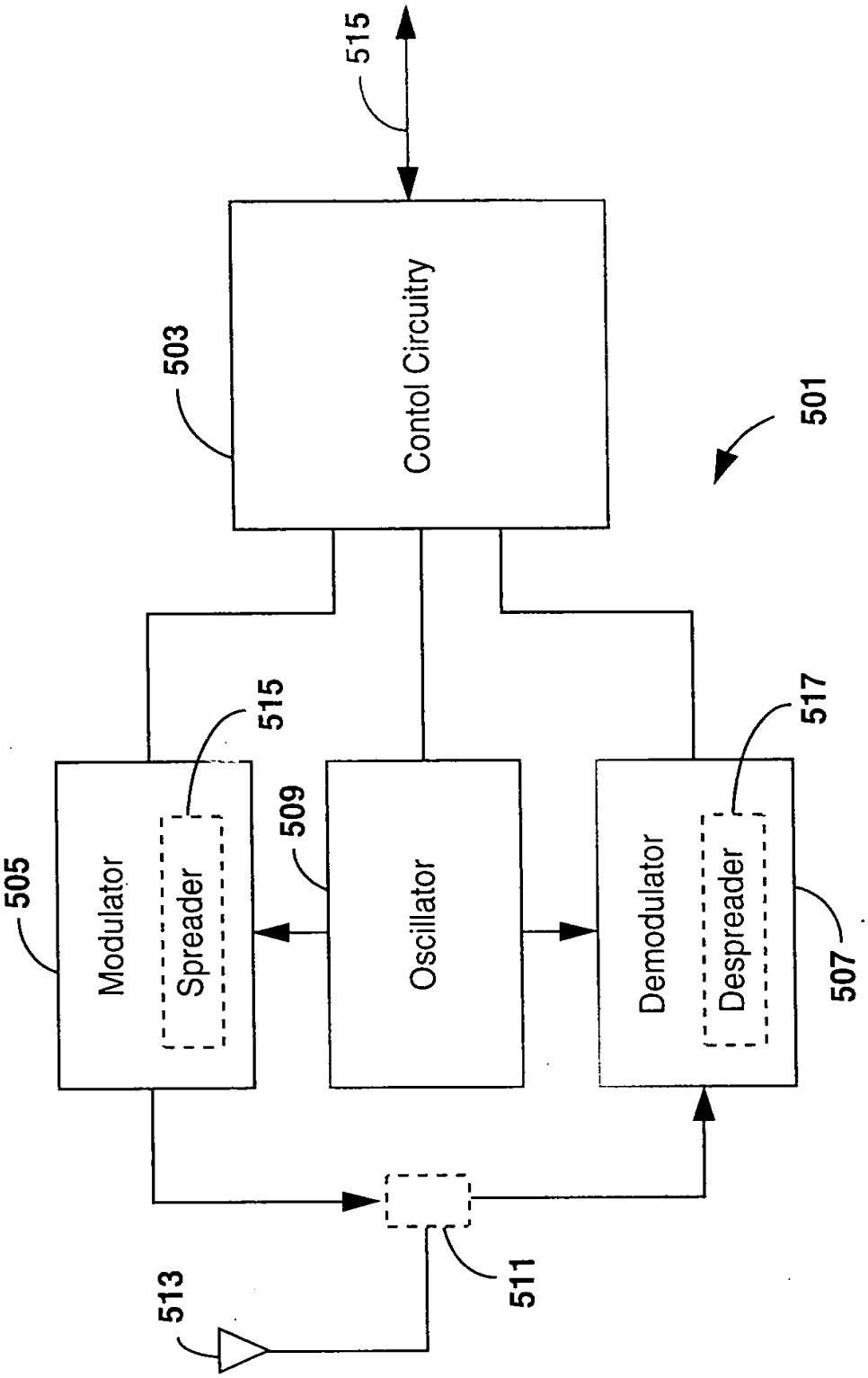
515
Contol Circuitry
503
501
515
517
505
Modulator
Spreader
509
Oscillator
Demodulator
Despreader
507
513
511

FIG. 1c

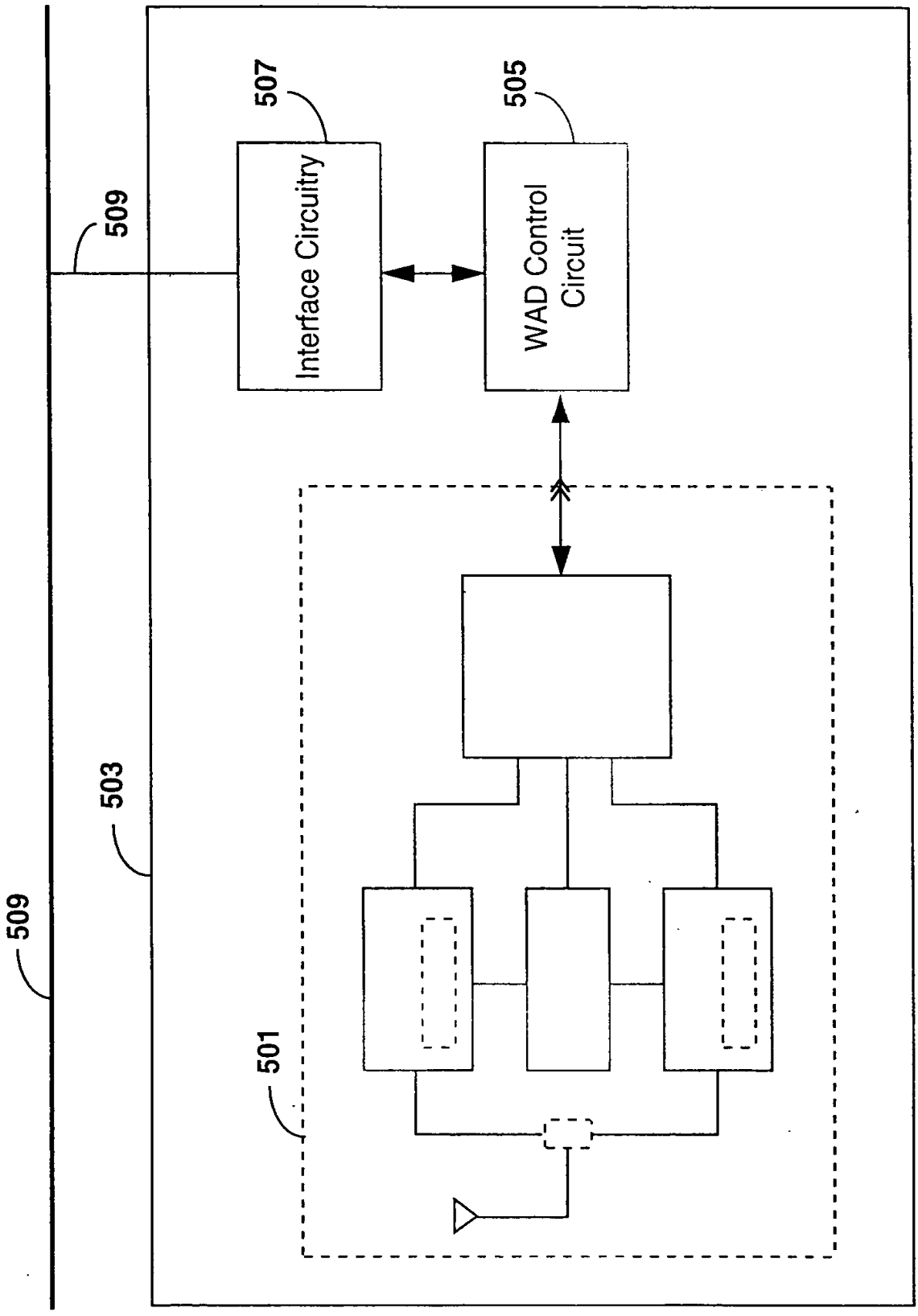
509
503
509
501
507
Interface Circuitry
505
WAD Control Circuit

FIG. 1d

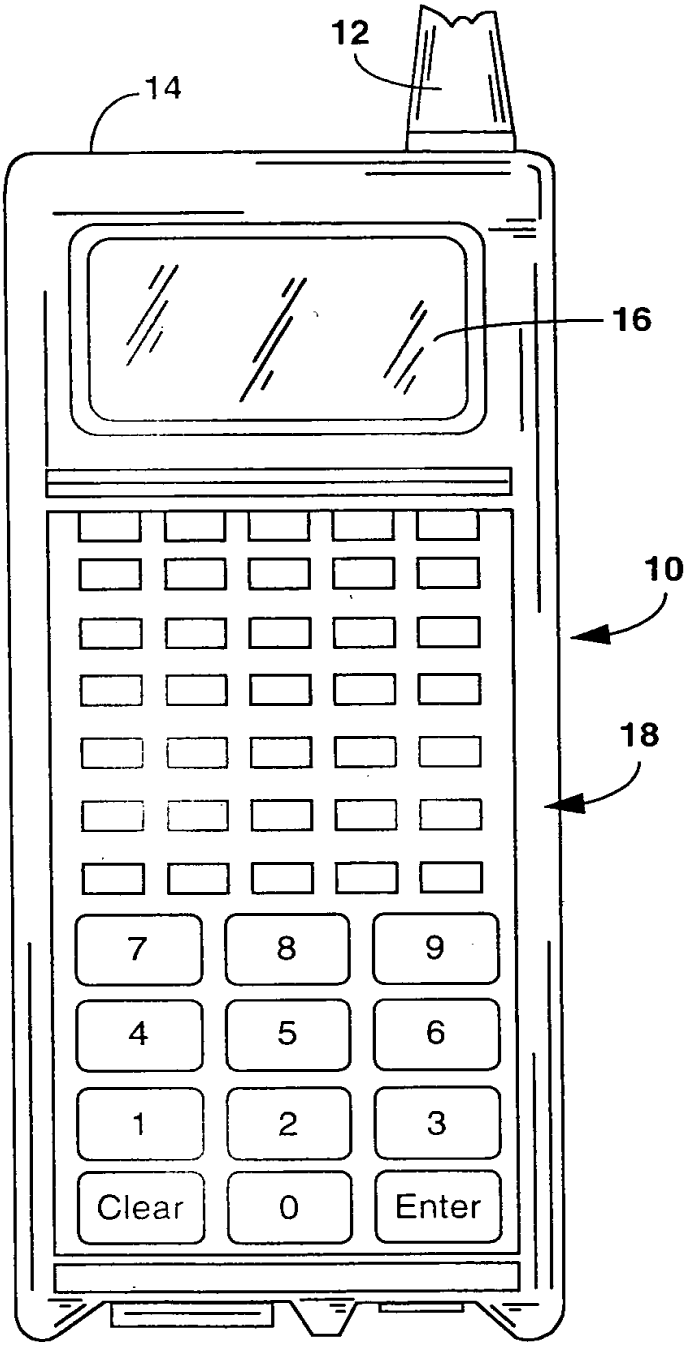

FIG. 2A

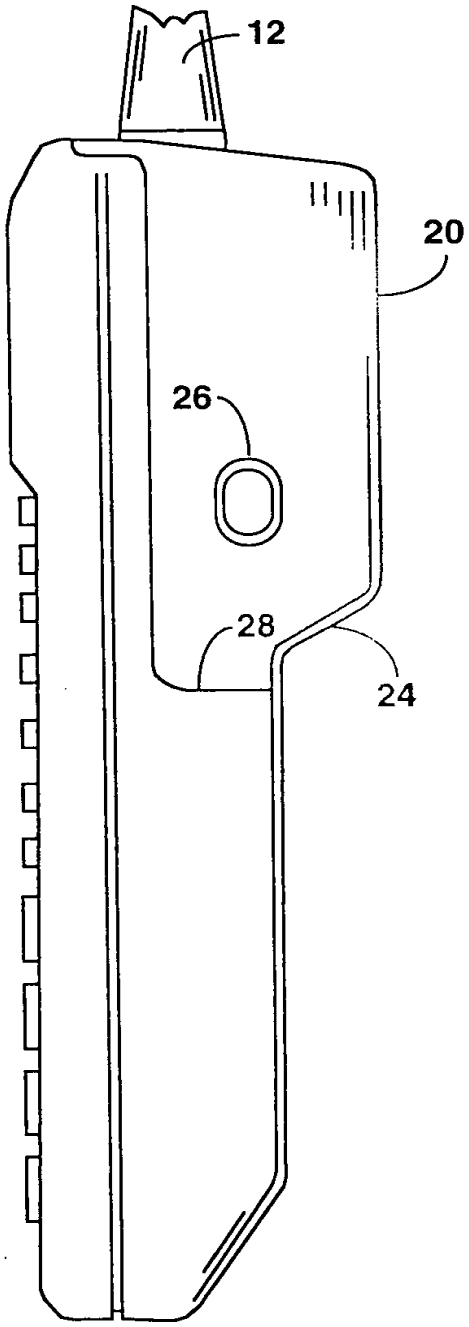

FIG. 2B

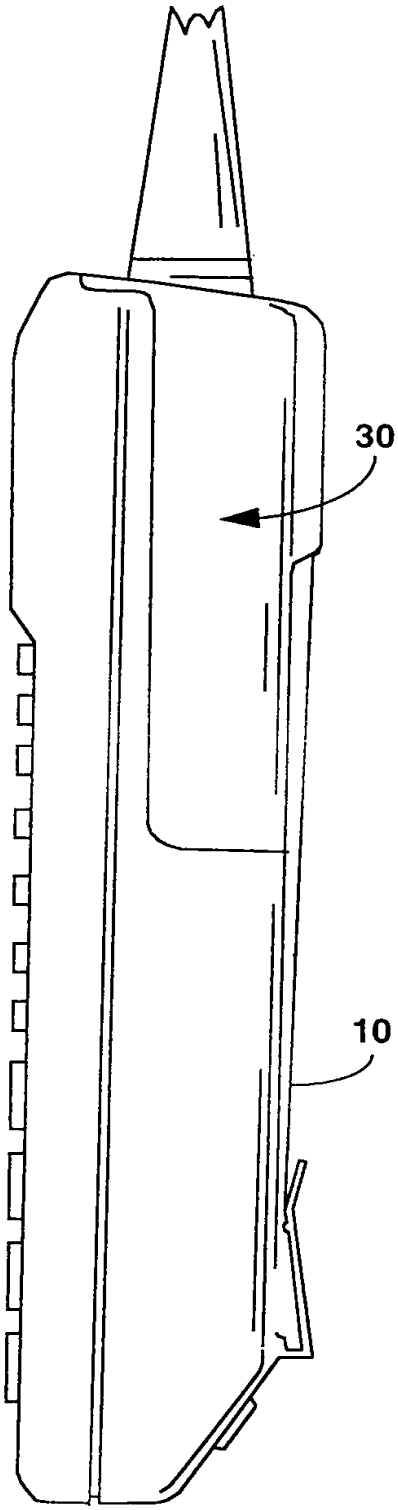

FIG. 3

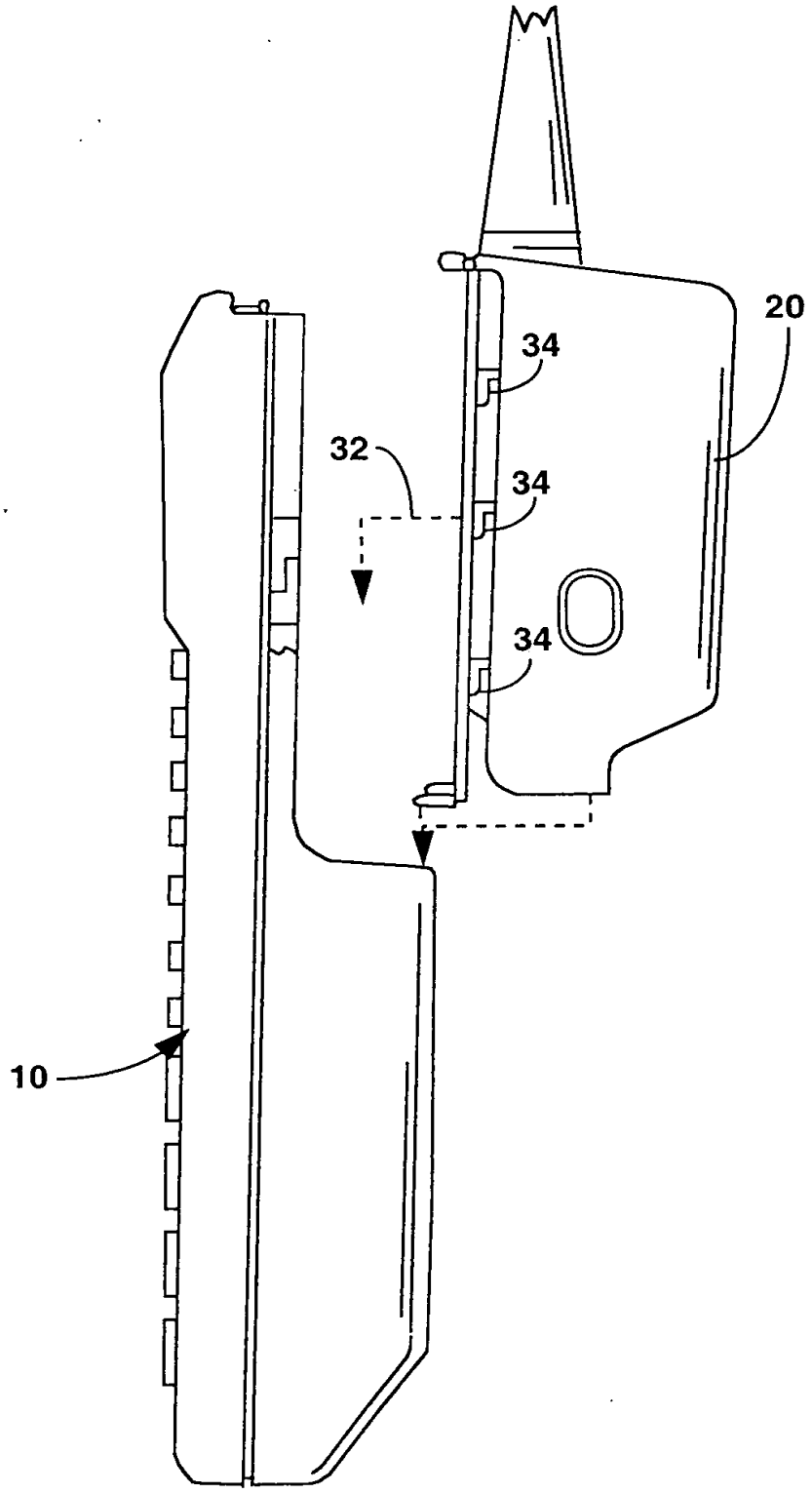

FIG. 4

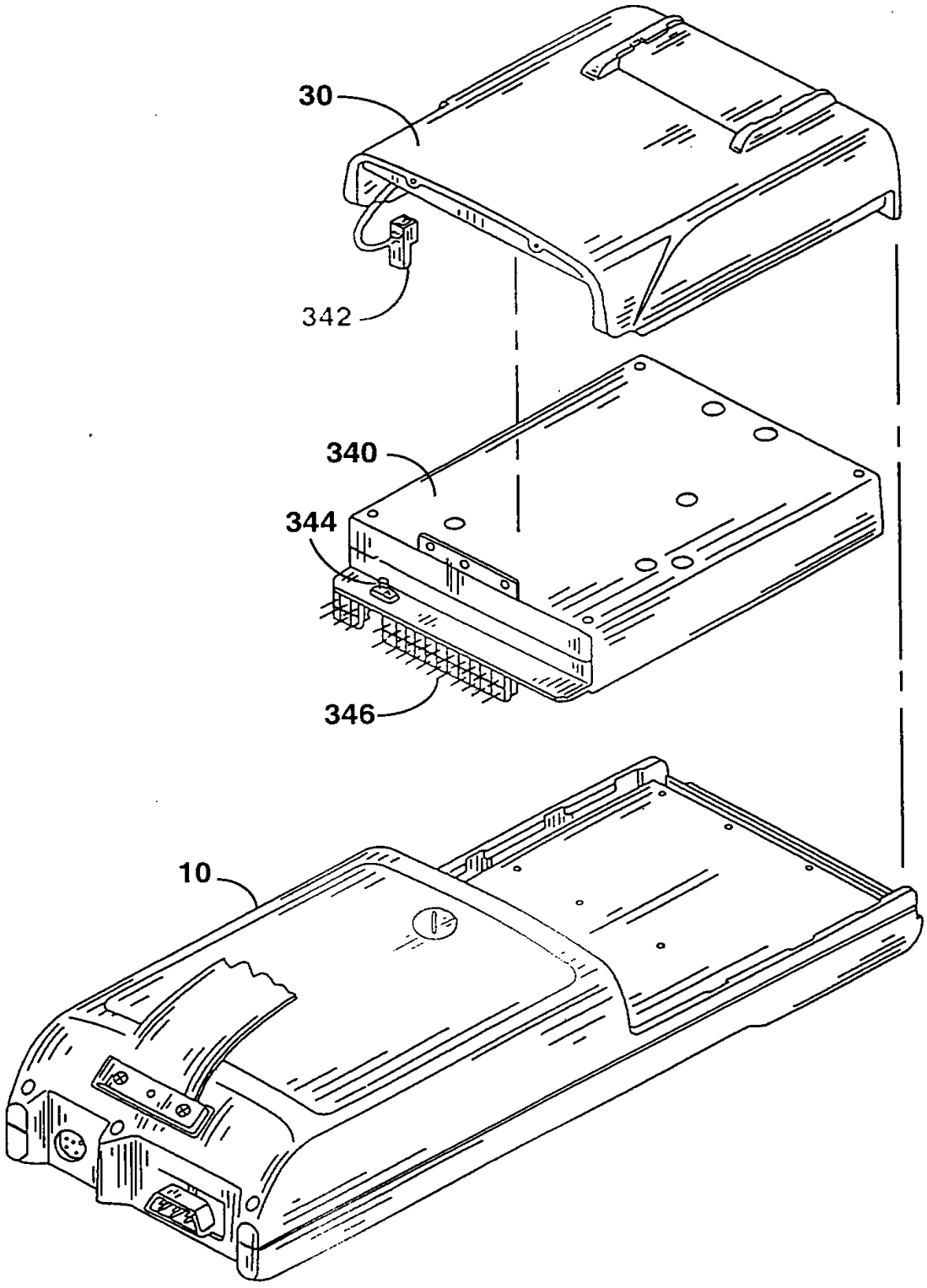

FIG. 4A

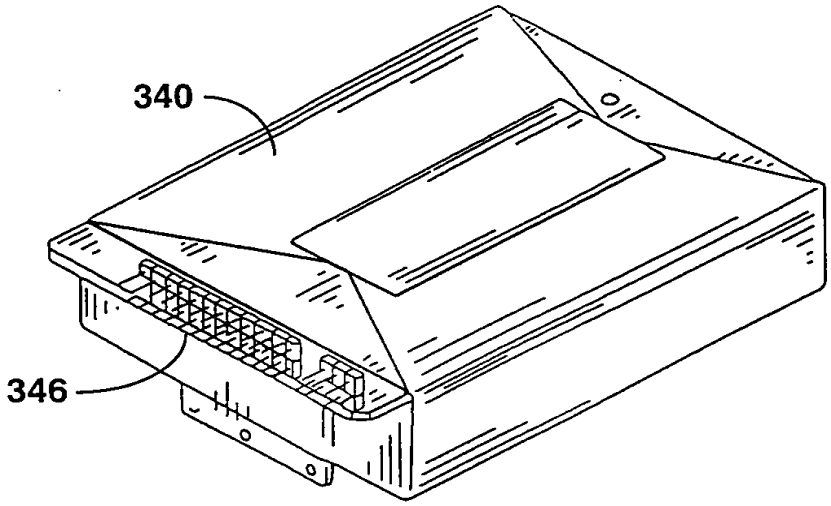

FIG. 4B

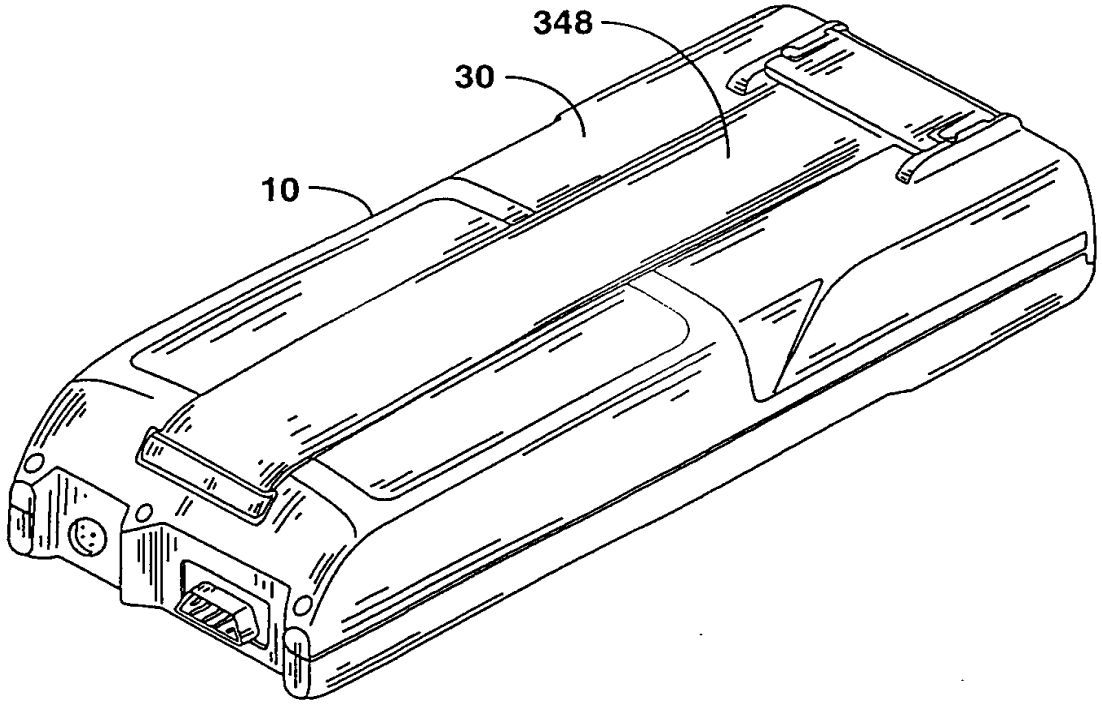

FIG. 4C

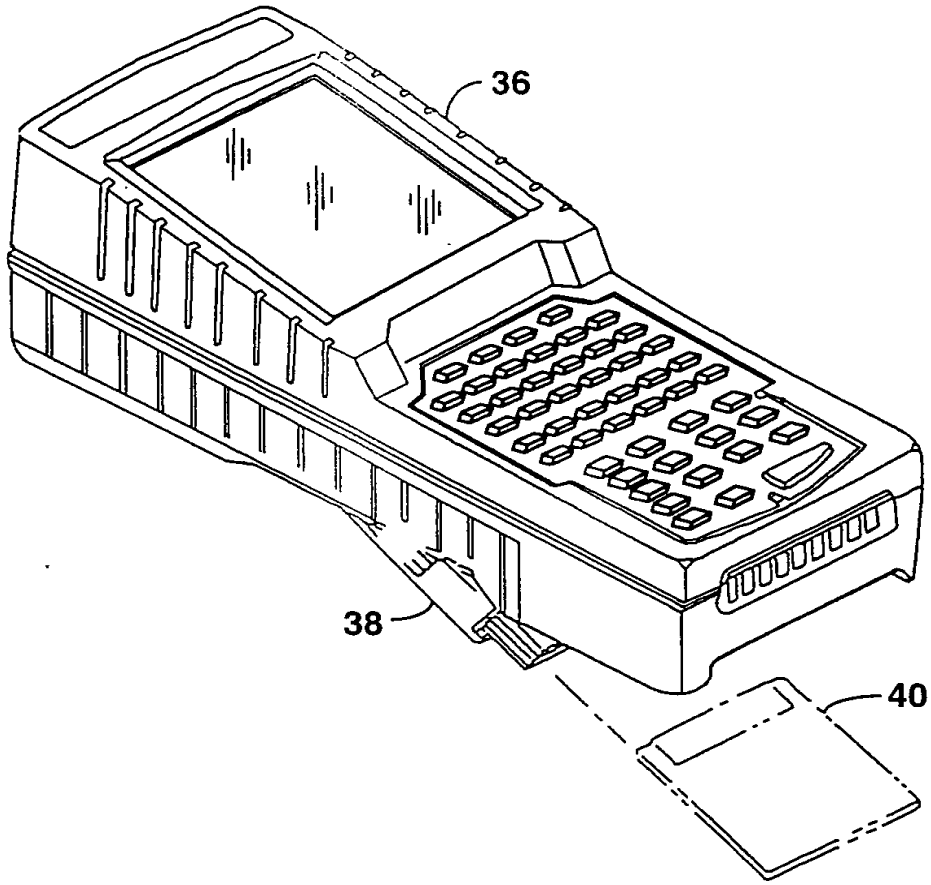

FIG. 5

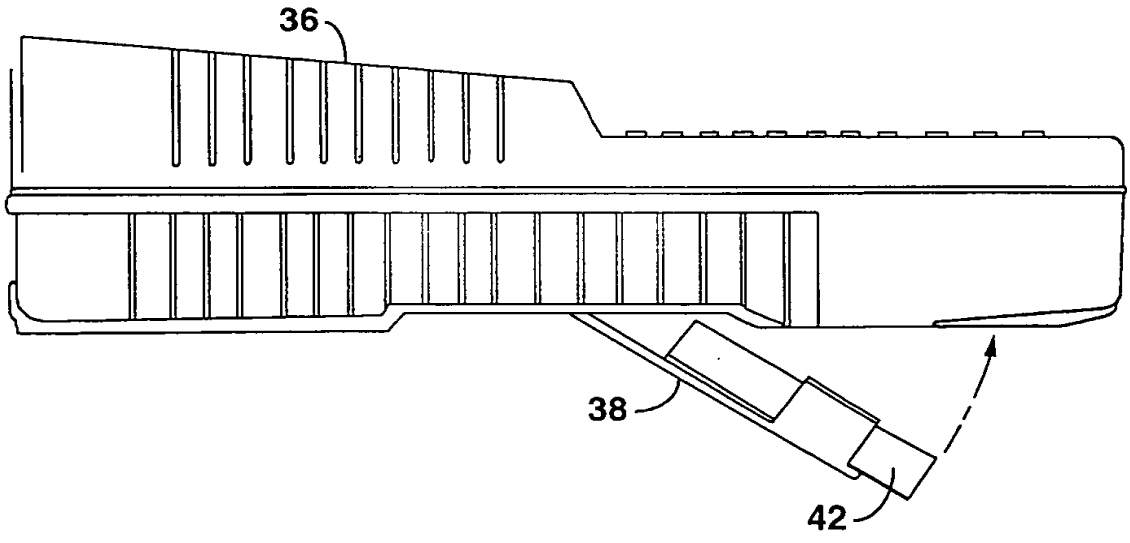

FIG. 6

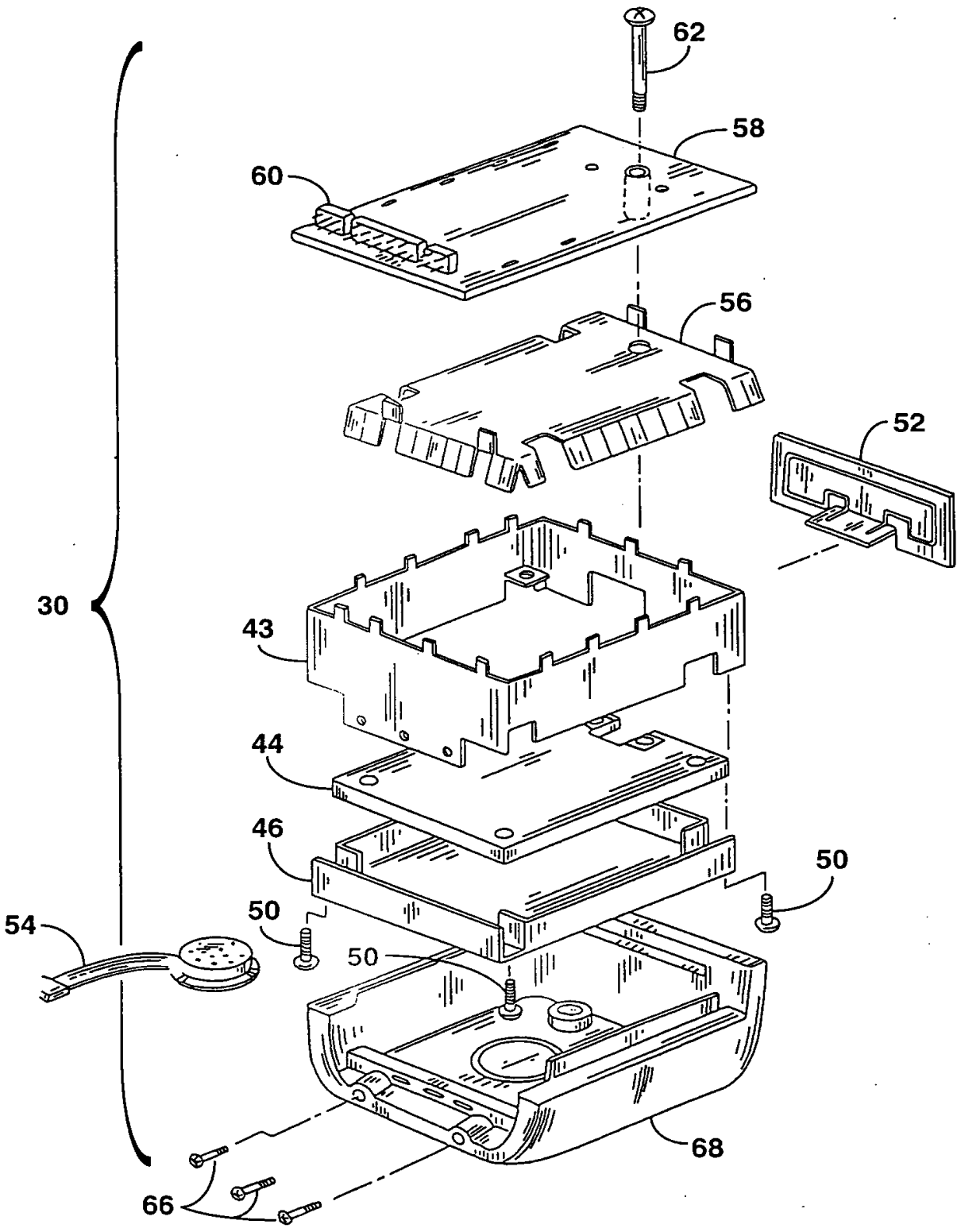

FIG. 7

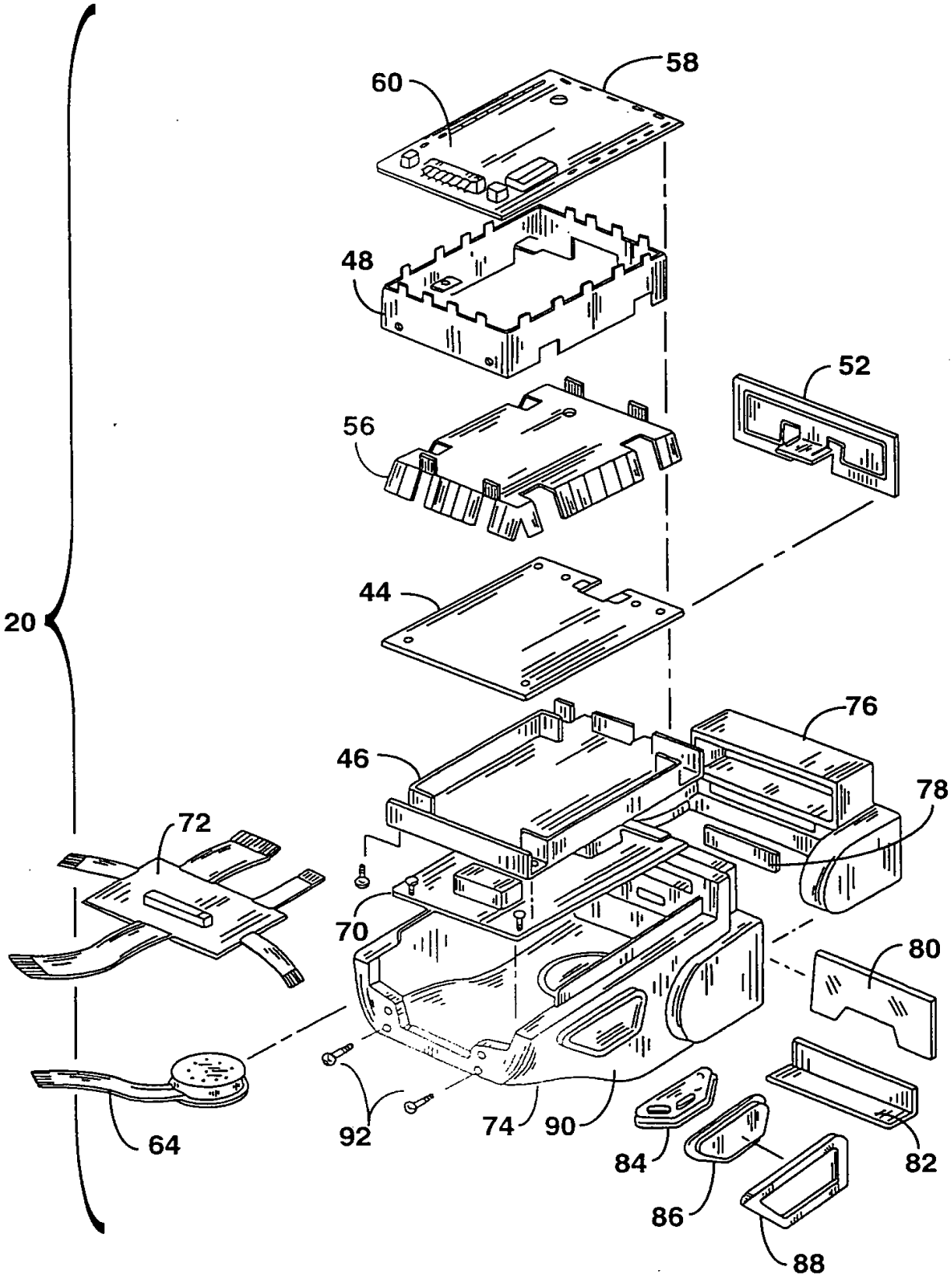

FIG. 8

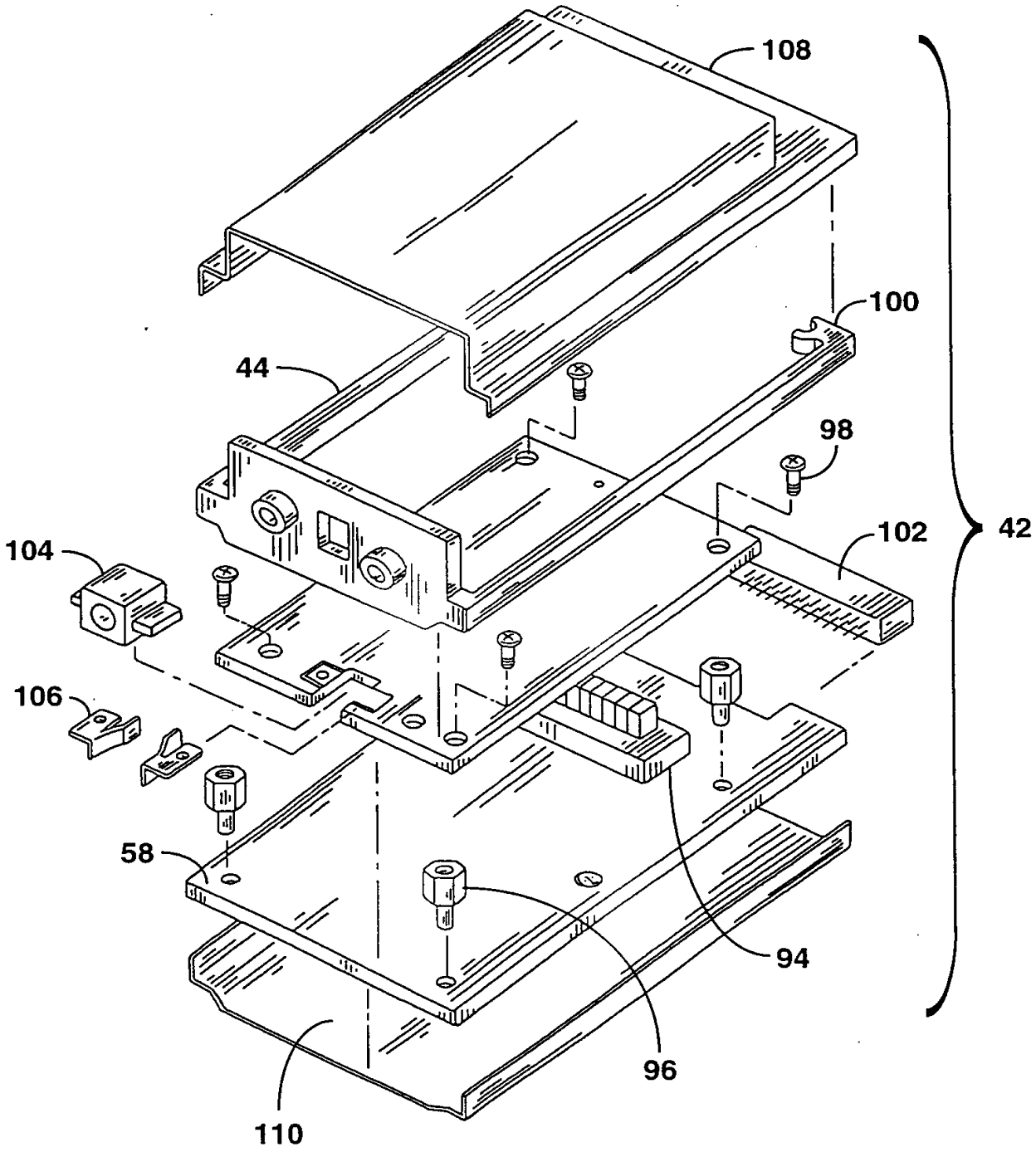

FIG. 9

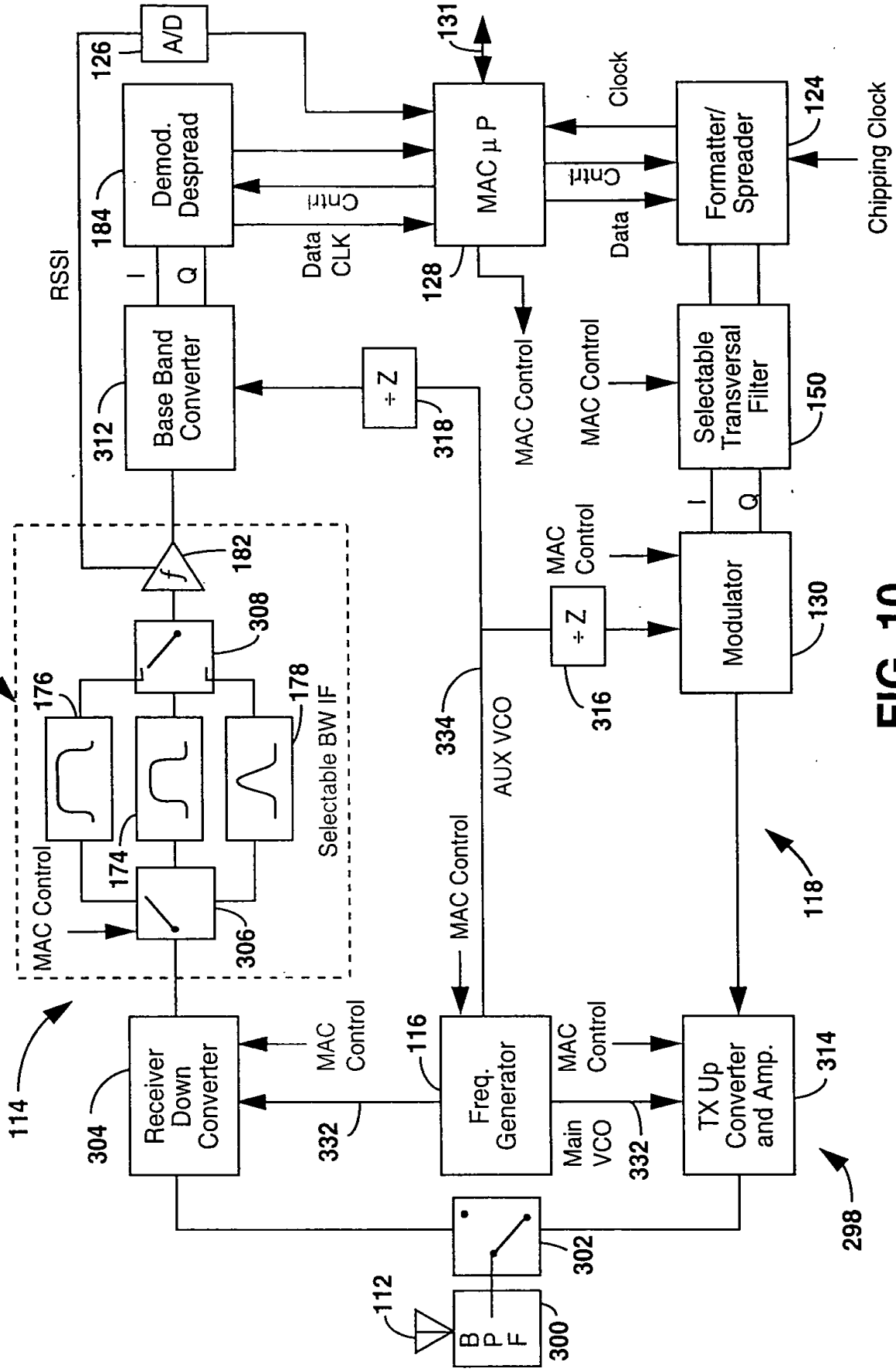
A/D
126
131
Demod. Despread
184
MAC µ P
Clock
Formatter/ Spreader
124
Chipping Clock
RSSI
I
Q
Data CLK
Cntl
Data
128
Base Band Converter
312
÷ Z
318
MAC Control
Selectable Transversal Filter
150
322
182
308
176
178
Selectable BW IF
MAC Control
174
306
334
AUX VCO
MAC Control
÷ Z
316
Modulator
130
118
114
Receiver Down Converter
304
MAC Control
116
Freq. Generator
332
Main VCO
TX Up Converter and Amp.
314
298
302
112
B P F
300

FIG. 10

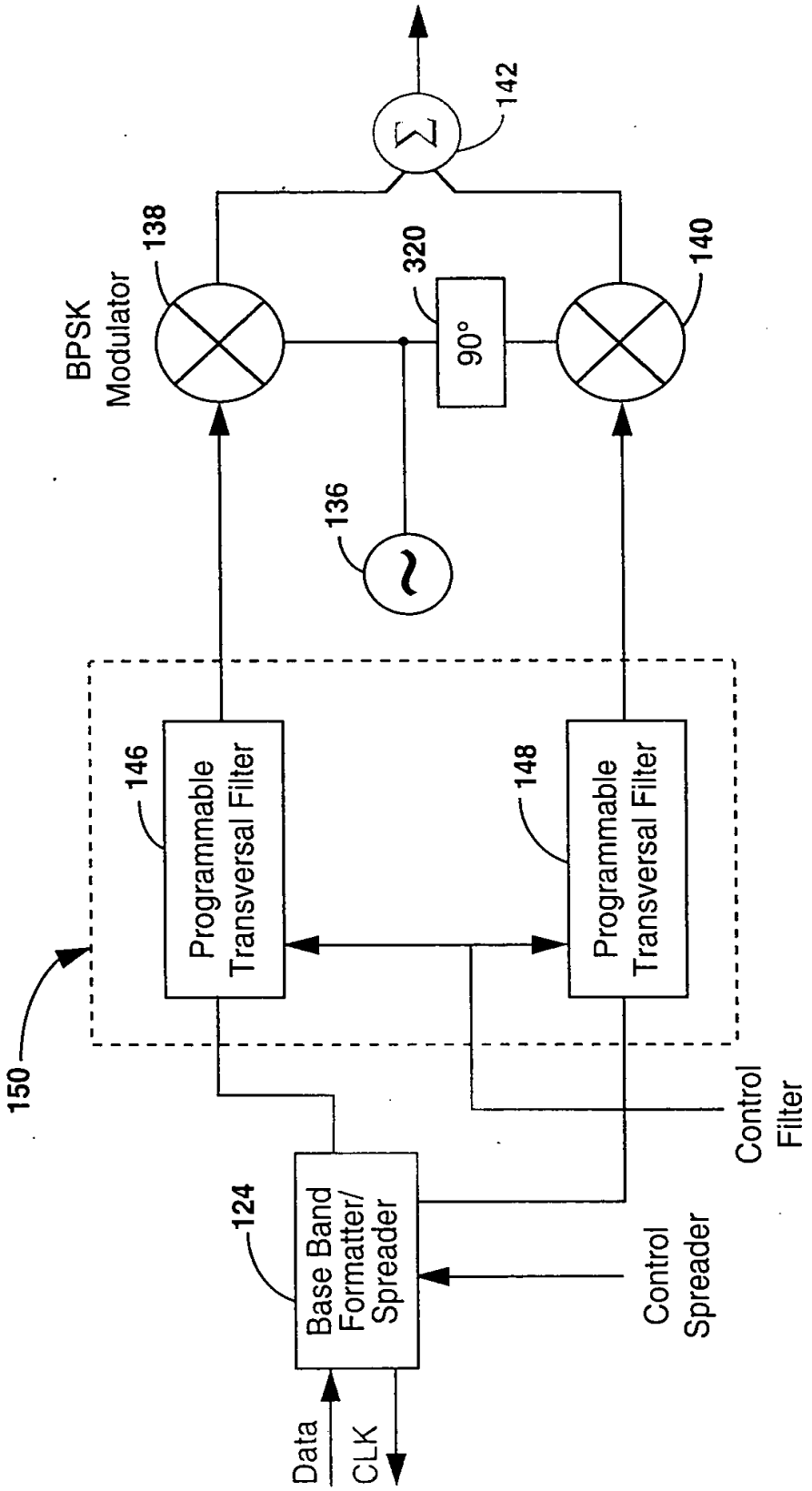
BPSK Modulator
138
320
90°
140
142
136
Programmable Transversal Filter
146
Programmable Transversal Filter
148
150
Base Band Formatter/ Spreader
124
Data
CLK
Control Spreader
Control Filter

FIG. 11

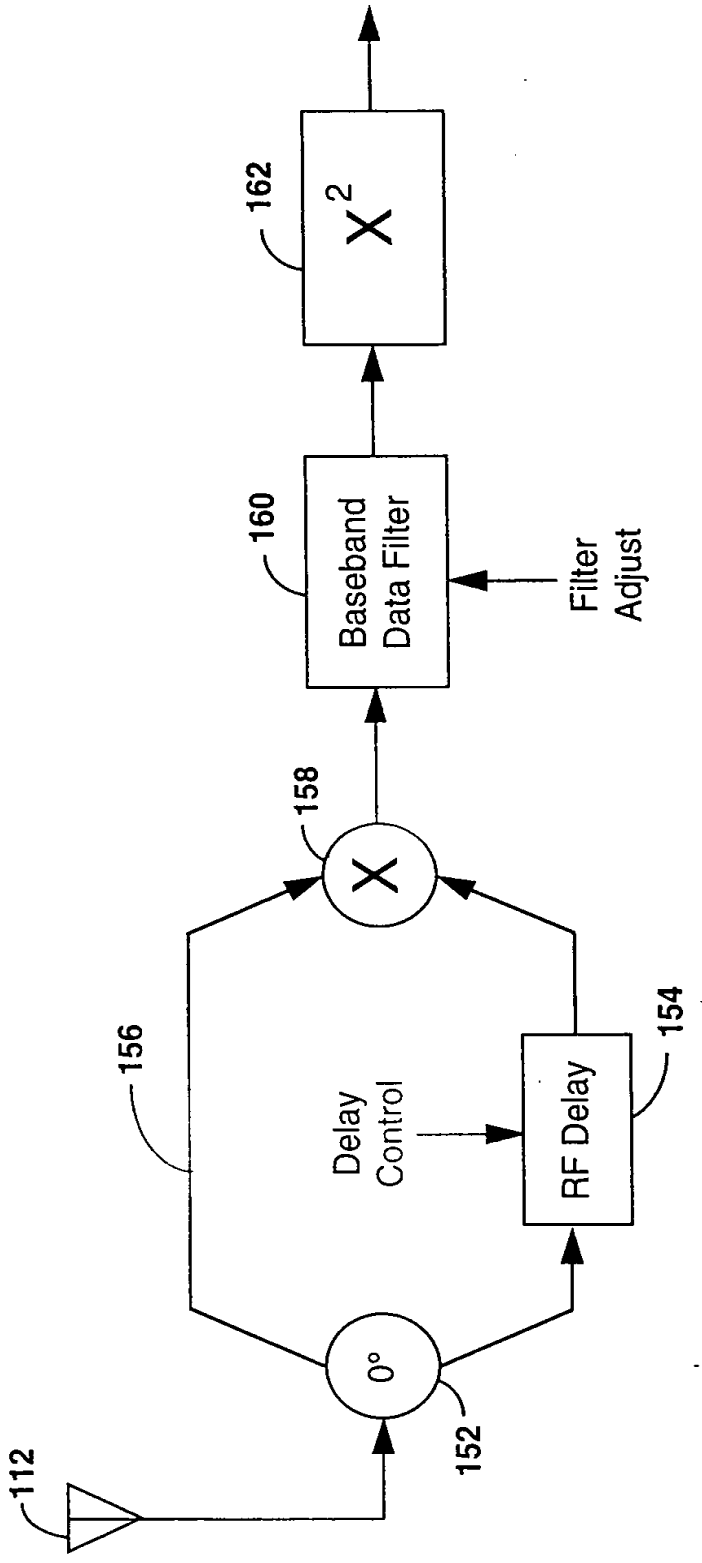
112
152
0°
154
RF Delay
Delay Control
156
158
160
Baseband Data Filter
Filter Adjust
162
X²

FIG. 12

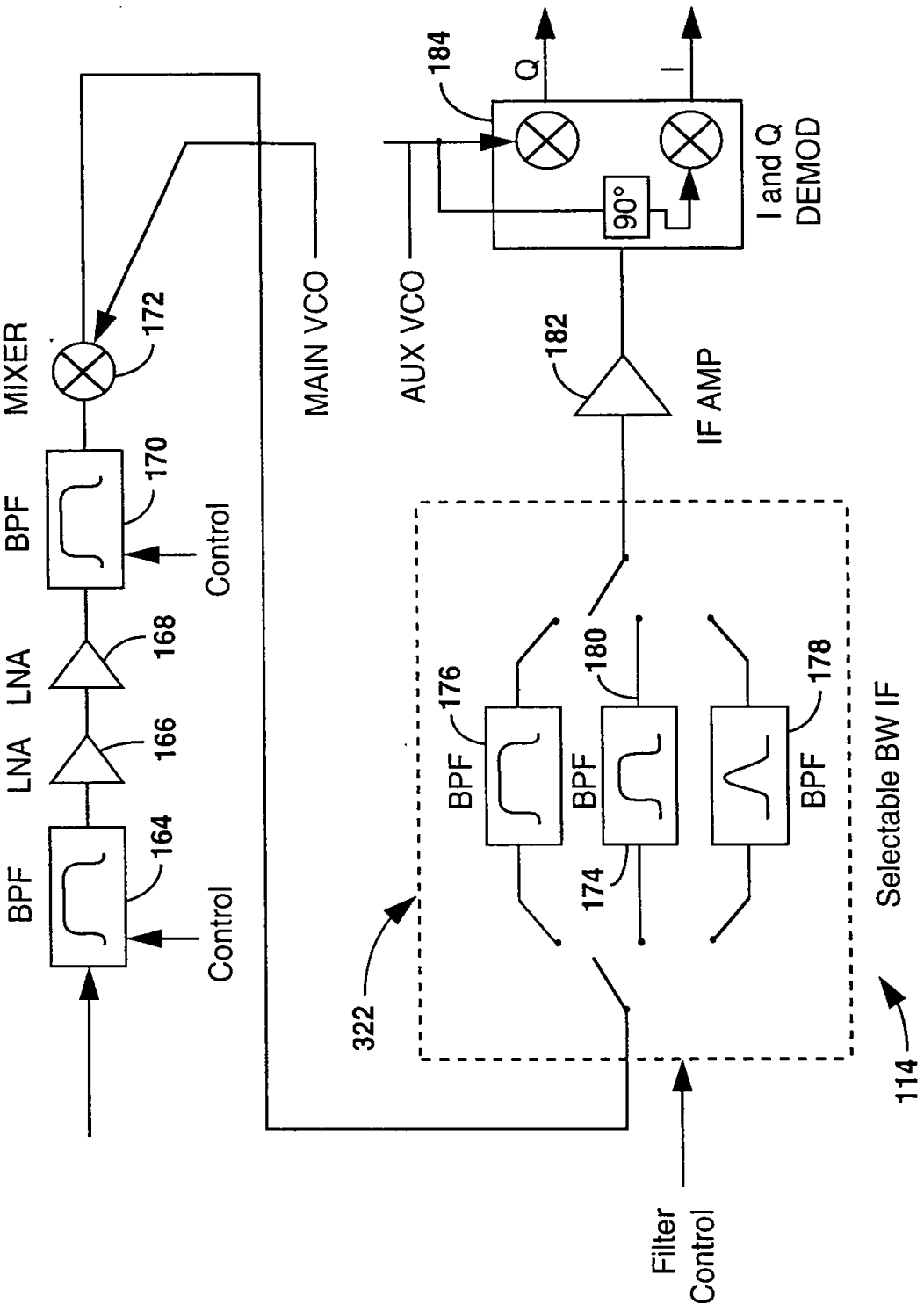
BPF
164
Control
LNA
166
LNA
168
BPF
170
Control
MIXER
172
MAIN VCO
AUX VCO
184
Q
I
90°
I and Q
DEMOD
182
IF AMP
322
BPF
176
BPF
180
174
BPF
178
Selectable BW IF
114
Filter
Control

FIG. 13

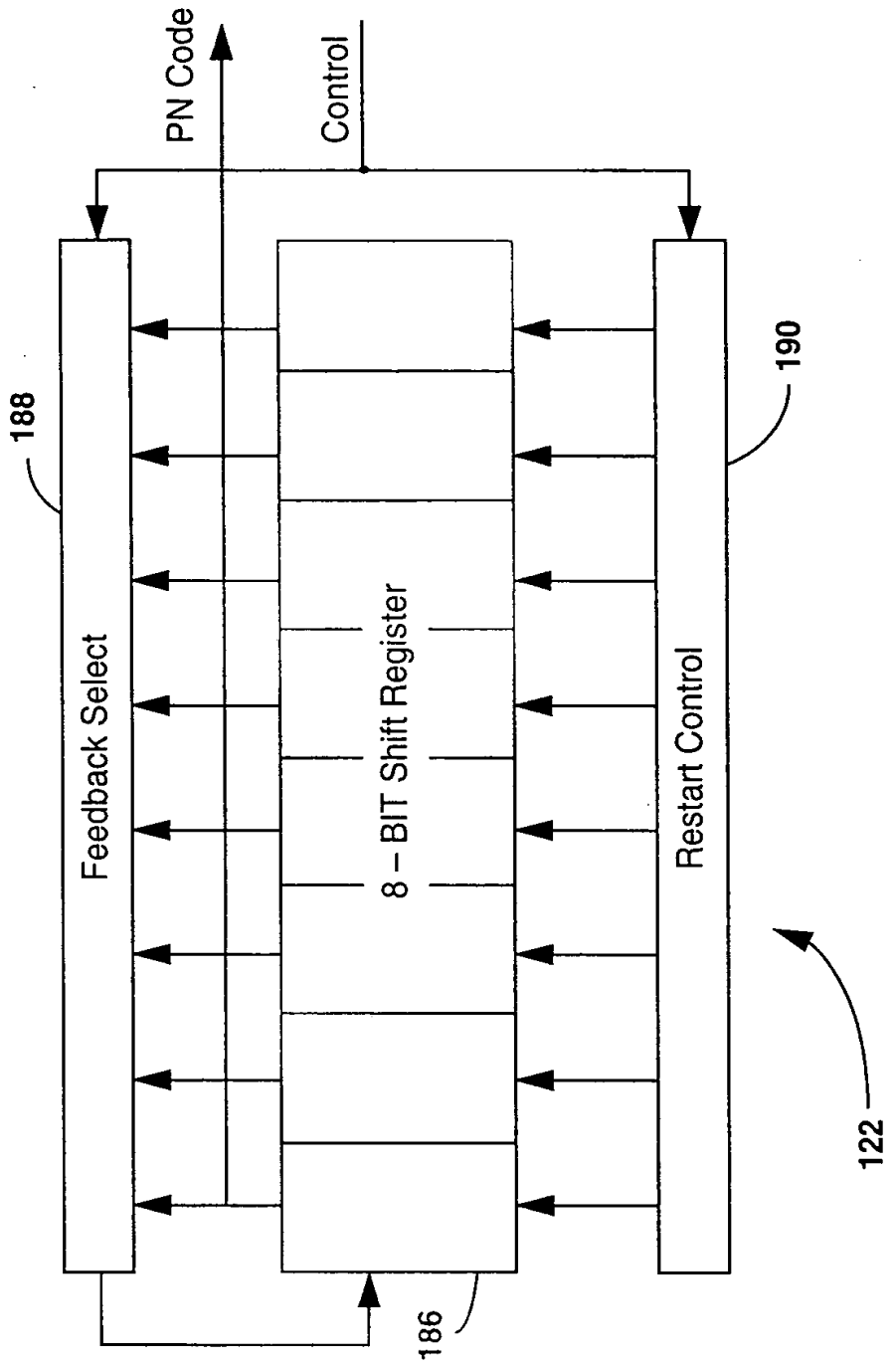
PN Code
Control
188
Feedback Select
8 – BIT Shift Register
Restart Control
190
122
186

FIG. 14A

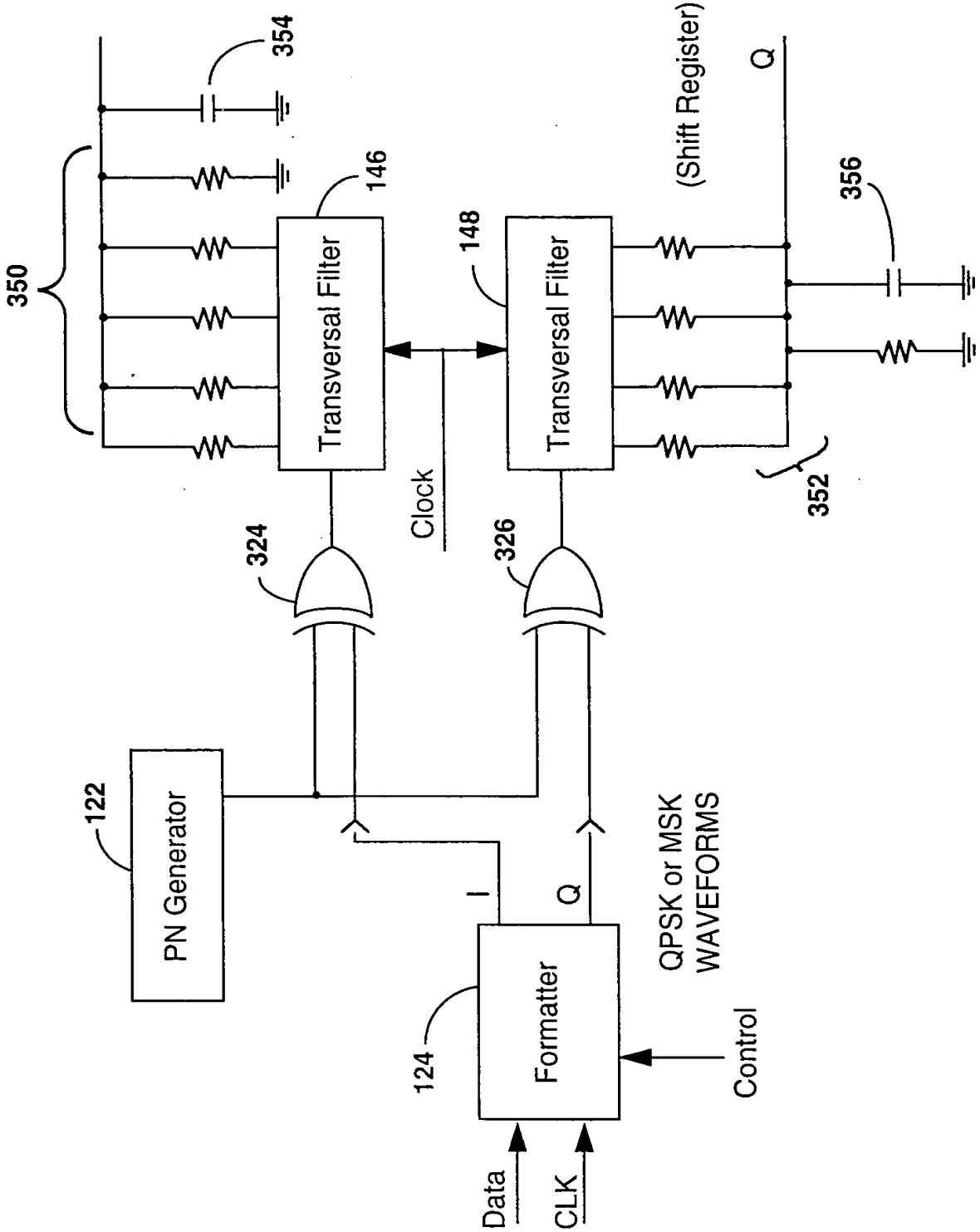
354
350
146
Transversal Filter
148
Transversal Filter
(Shift Register)
Q
356
352
Clock
324
326
122
PN Generator
I
Q
QPSK or MSK
WAVEFORMS
124
Formatter
Control
Data
CLK

FIG. 14B

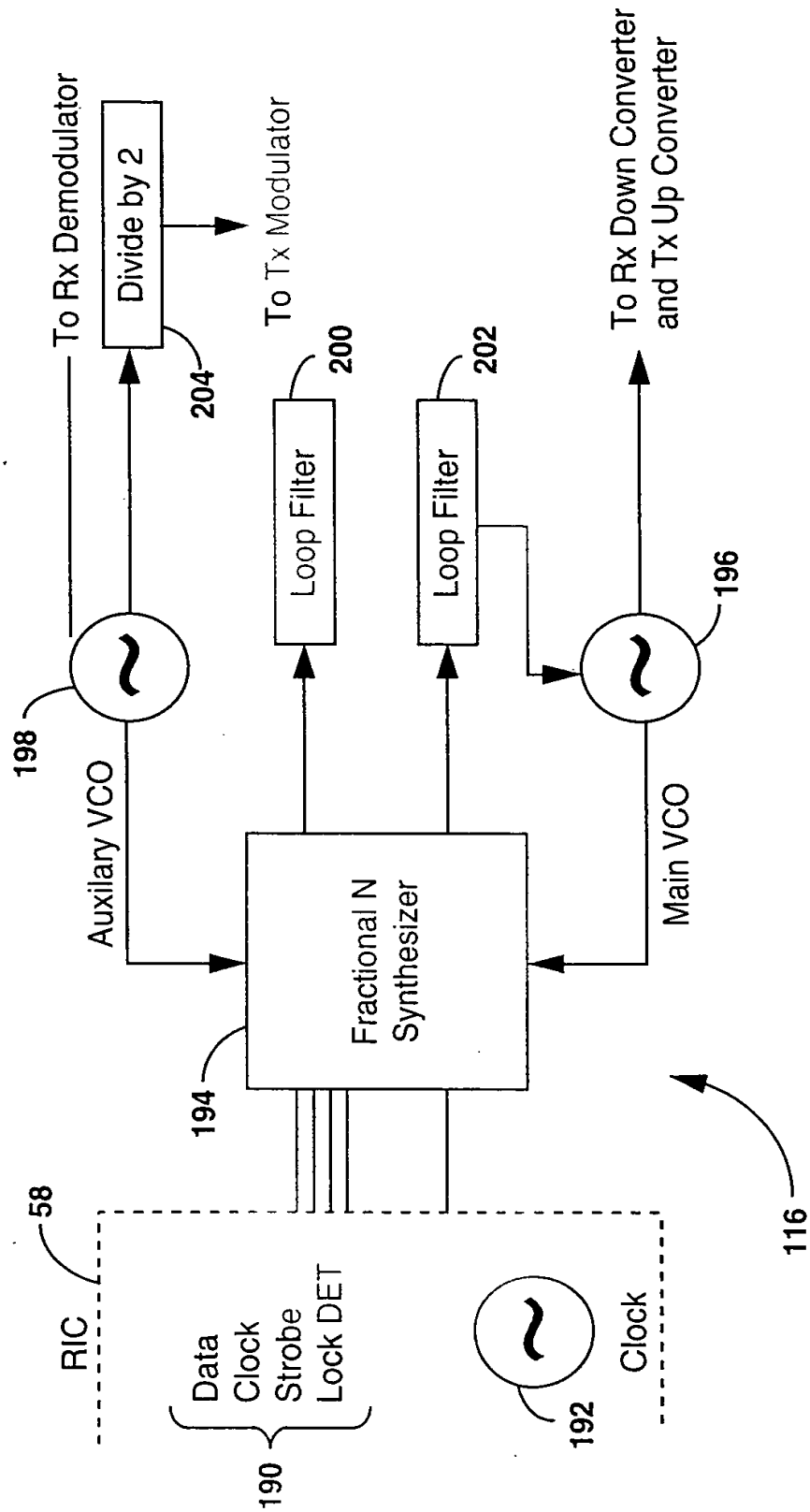
To Rx Demodulator
Divide by 2
204
To Tx Modulator
200
Loop Filter
202
Loop Filter
To Rx Down Converter
and Tx Up Converter
198
Auxilary VCO
196
Main VCO
Fractional N
Synthesizer
194
58
RIC
Data
Clock
Strobe
Lock DET
190
192
Clock
116

FIG. 15

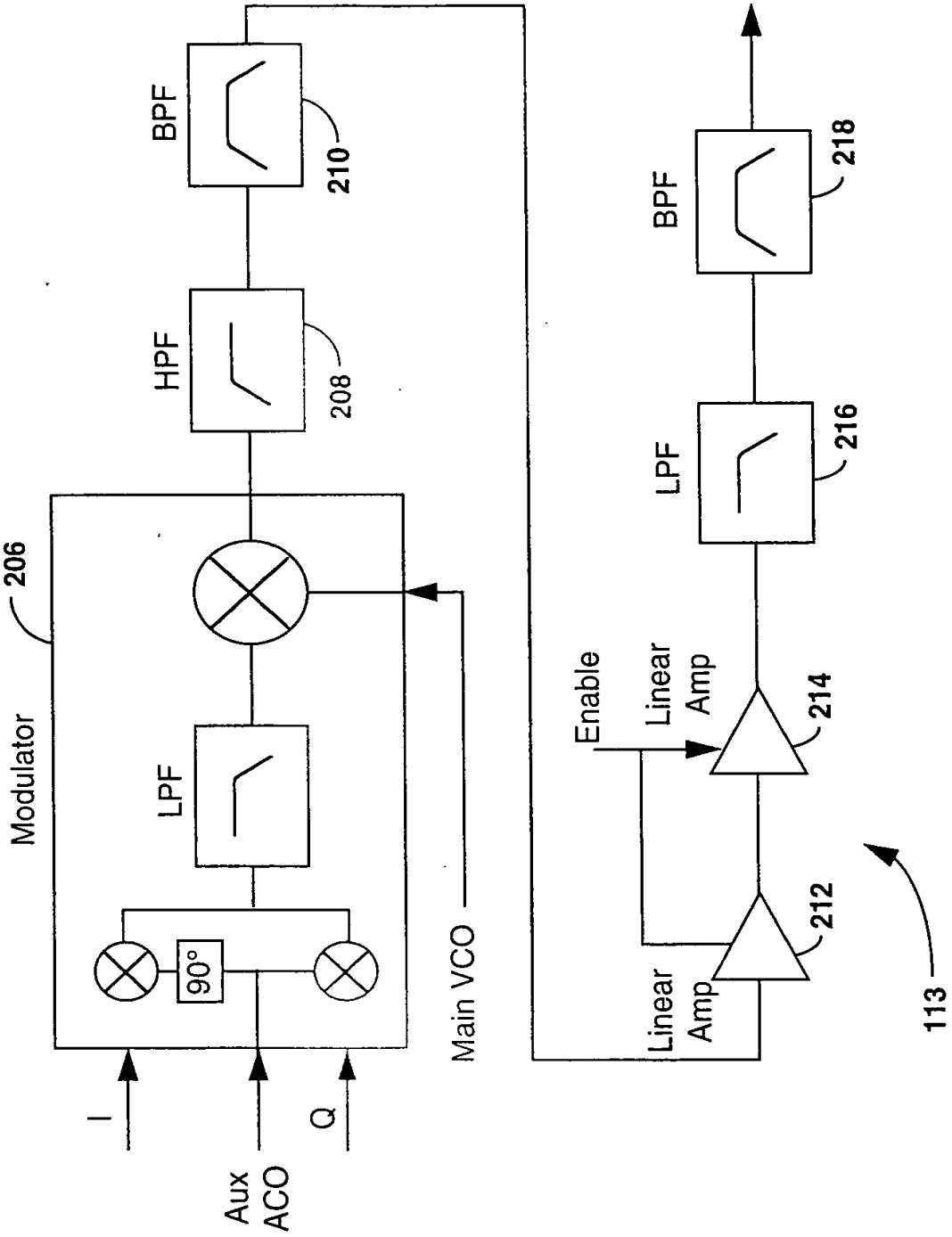
Modulator
206
LPF
90°
HPF
208
BPF
210
Main VCO
I
Aux ACO
Q
Enable
Linear Amp
214
212
Linear Amp
LPF
216
BPF
218
113

FIG. 16

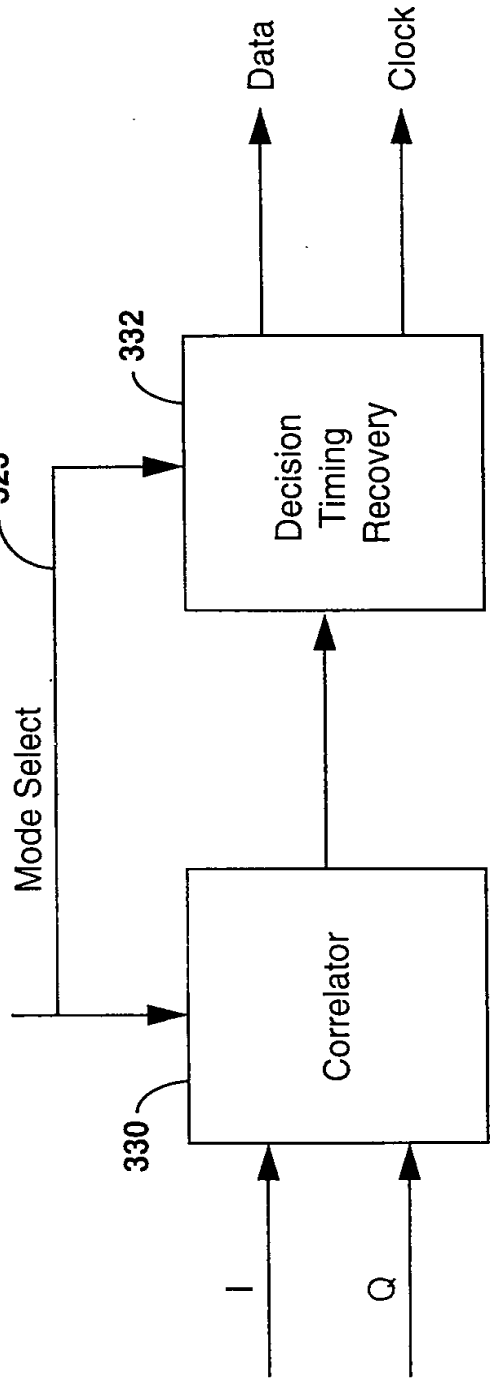
Data
Clock
332
Decision
Timing
Recovery
323
Mode Select
Correlator
330
I
Q

FIG. 17

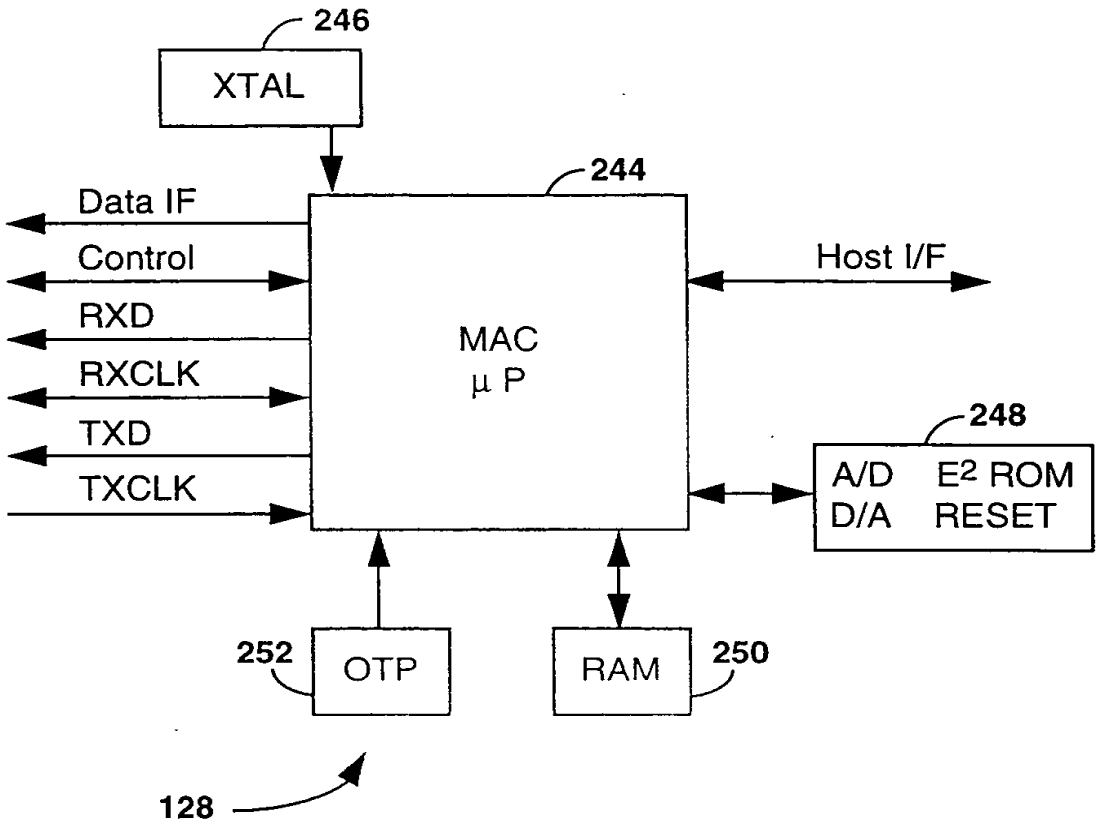
246
XTAL
244
Data IF
Control
RXD
RXCLK
TXD
TXCLK
MAC
μ P
Host I/F
248
A/D
D/A
E2 ROM
RESET
252
OTP
RAM
250
128

FIG. 18

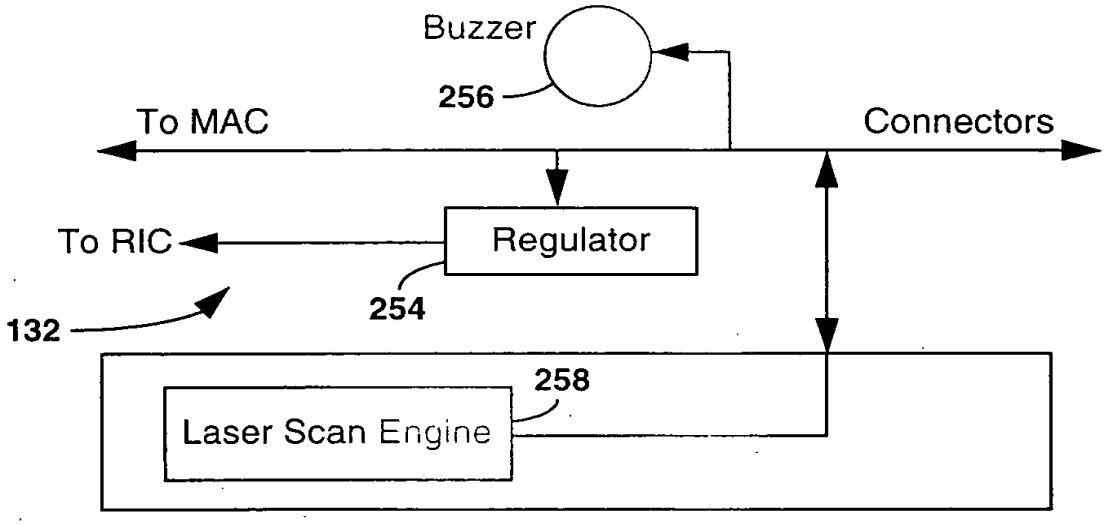
Buzzer
256
To MAC
Connectors
To RIC
Regulator
254
132
258
Laser Scan Engine

FIG. 19

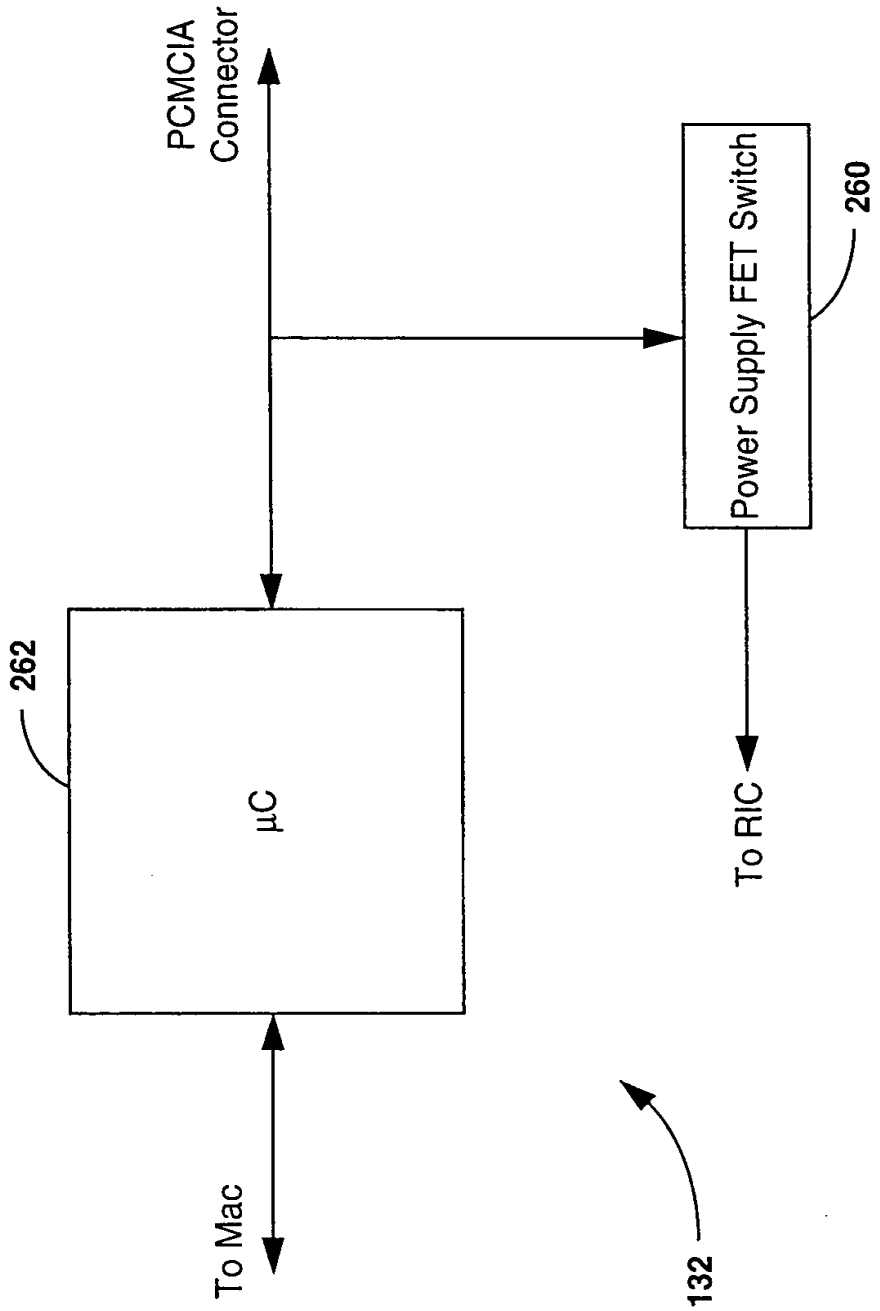
PCMCIA
Connector
Power Supply FET Switch
260
262
µC
To RIC
To Mac
132

FIG. 20

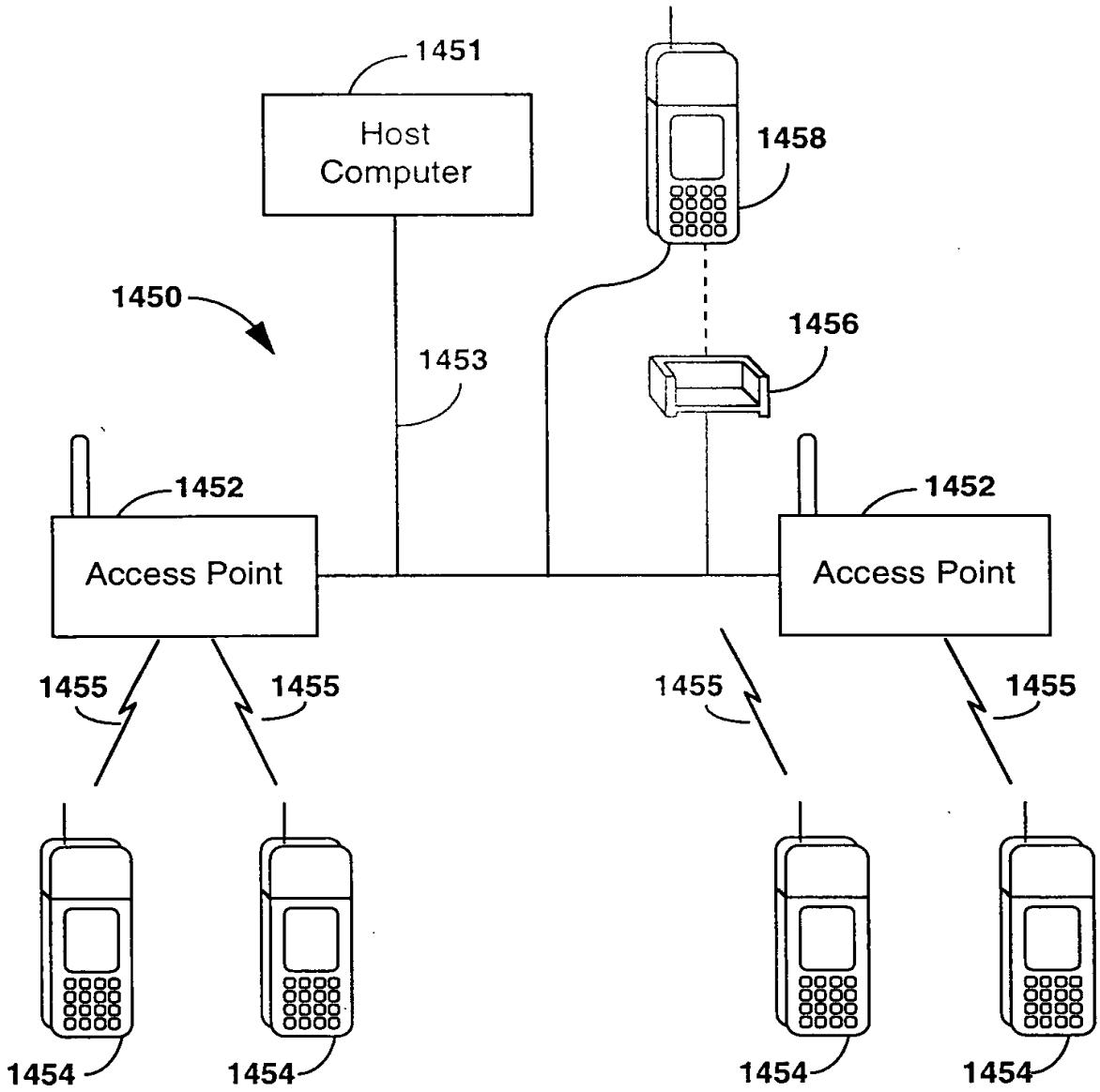
1451
Host Computer
1458
1450
1456
1453
1452
Access Point
1452
Access Point
1455
1455
1455
1455
1454
1454
1454
1454

FIG. 21

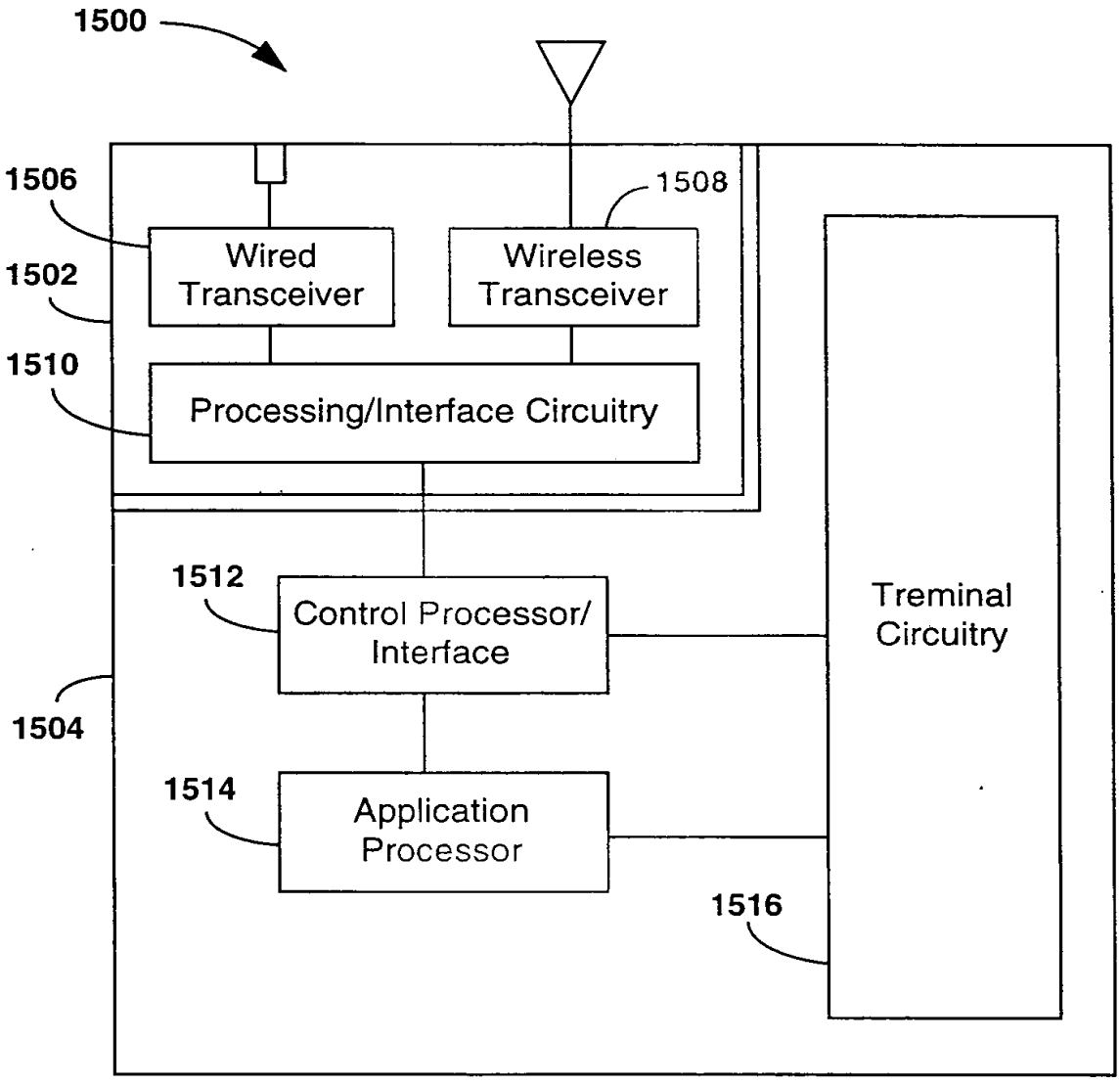
1500
1506
1508
1502
Wired Transceiver
Wireless Transceiver
1510
Processing/Interface Circuitry
1512
Control Processor/ Interface
Treminal Circuitry
1504
1514
Application Processor
1516

FIG. 22A

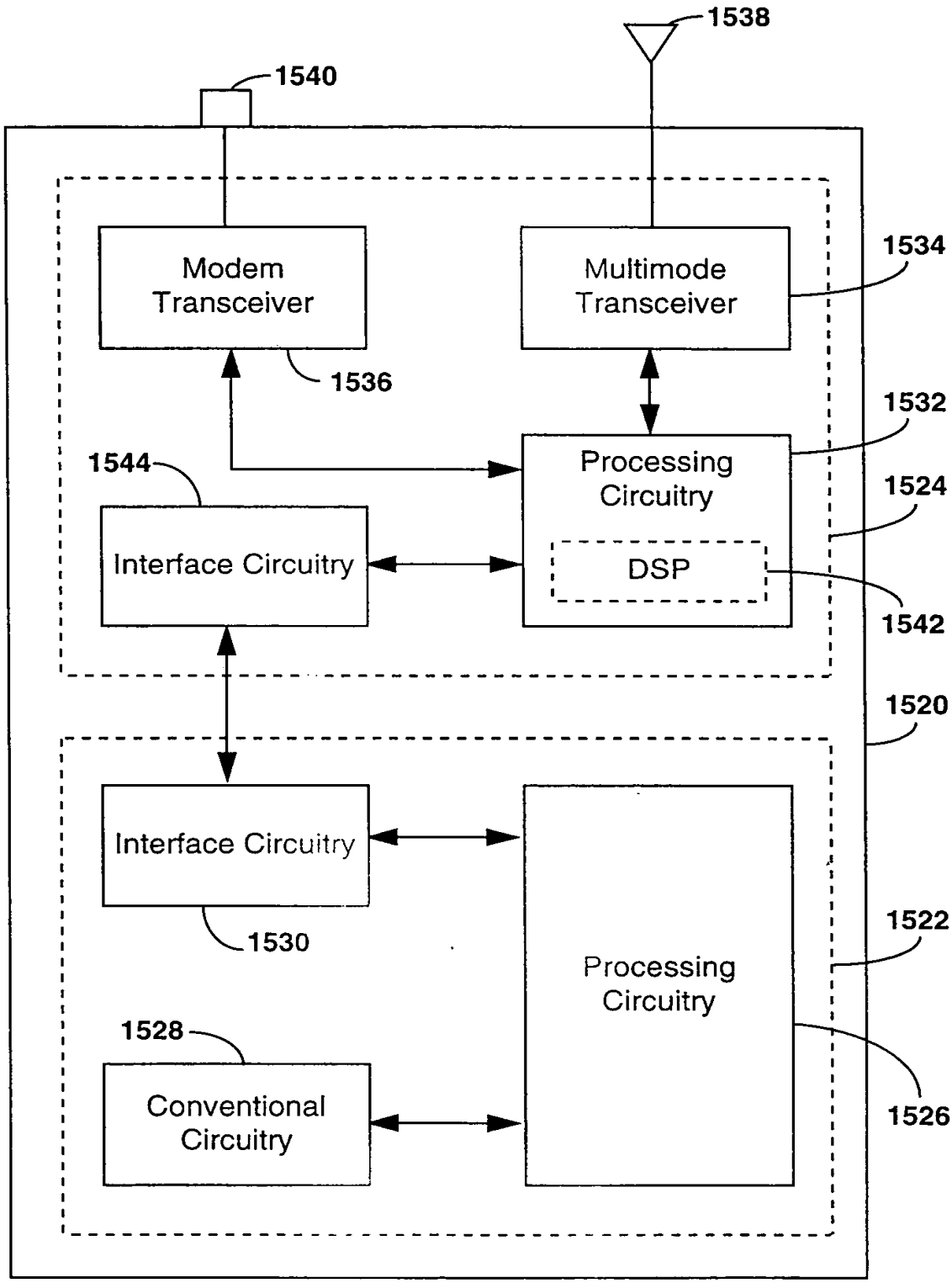
1538
1540
Modem Transceiver
Multimode Transceiver
1534
1536
1532
1544
Processing Circuitry
1524
Interface Circuitry
DSP
1542
1520
Interface Circuitry
1530
Processing Circuitry
1522
1528
Conventional Circuitry
1526

FIG. 22B

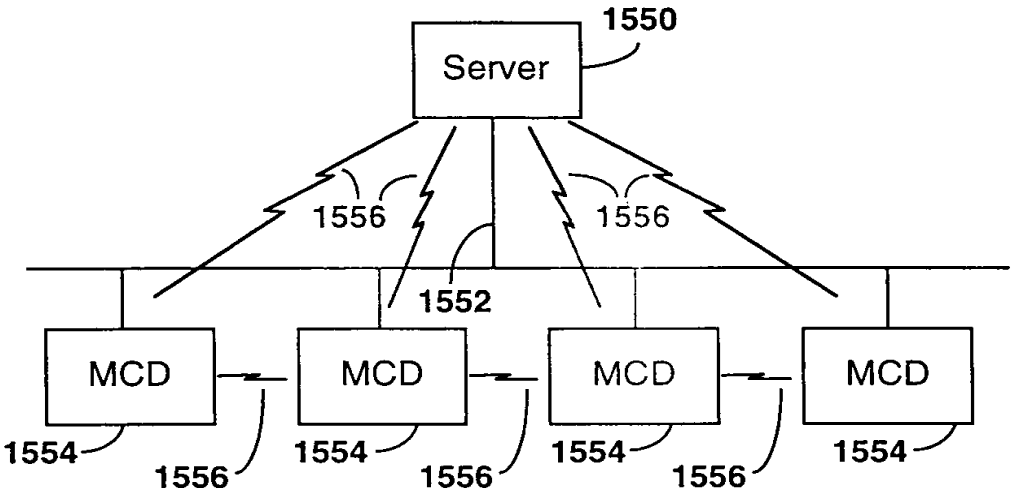
1550
Server
1556
1556
1552
MCD
MCD
MCD
MCD
1554
1556
1554
1556
1554
1556
1554

FIG. 23

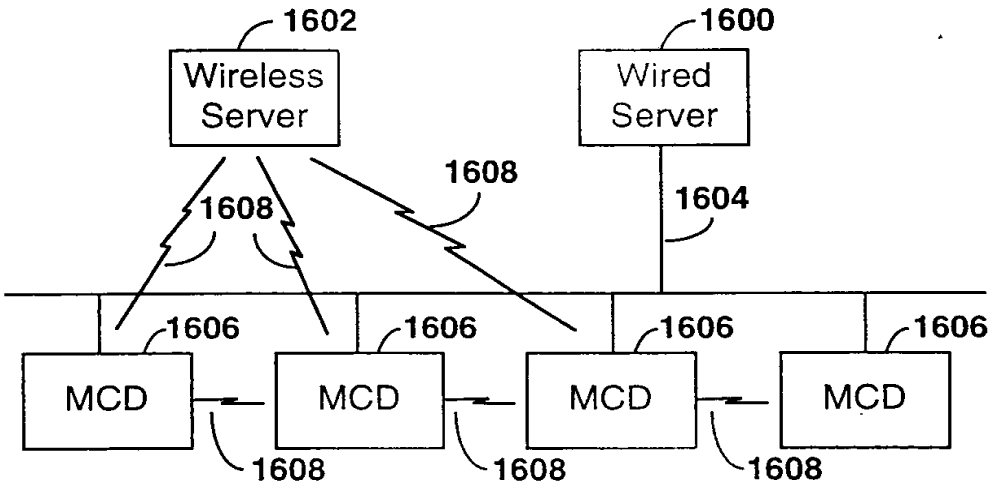
1602
Wireless Server
1600
Wired Server
1608
1608
1604
1606
1606
1606
1606
MCD
MCD
MCD
MCD
1608
1608
1608

FIG. 24

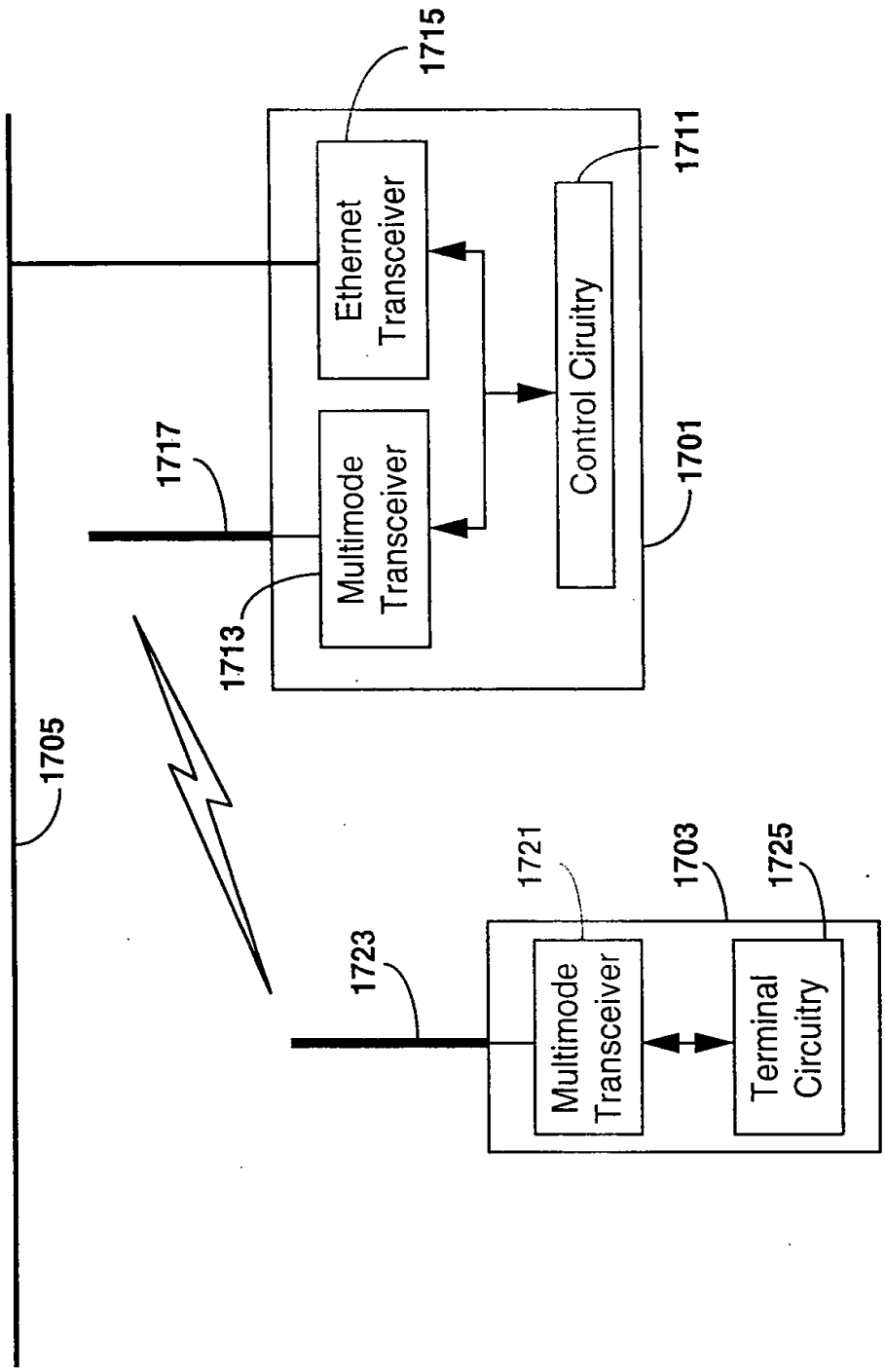
1705
1715
Ethernet Transceiver
1711
Control Ciruitry
1717
Multimode Transceiver
1701
1713
1723
1721
1703
1725
Multimode Transceiver
Terminal Circuitry

FIG. 25a

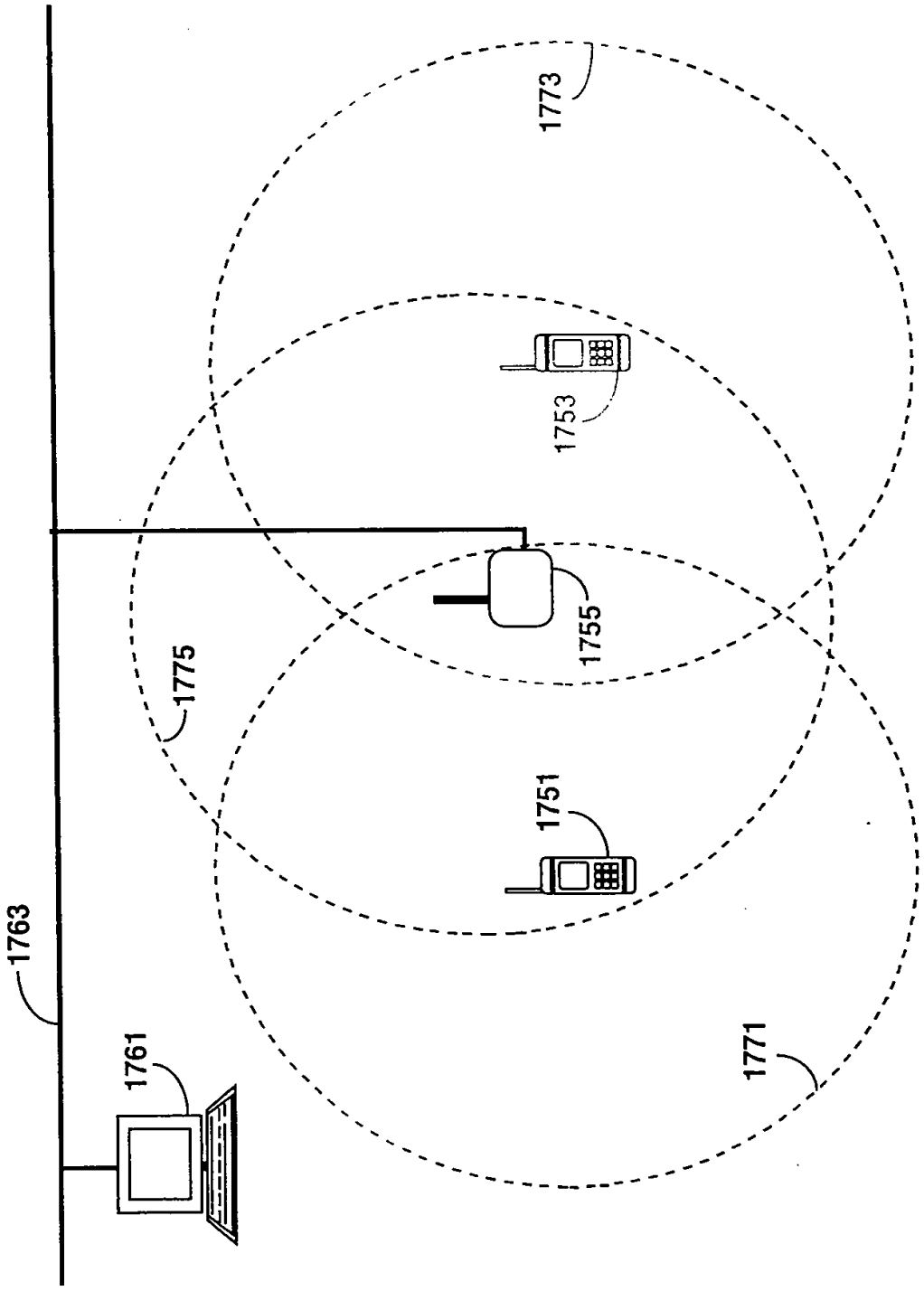

FIG. 25b

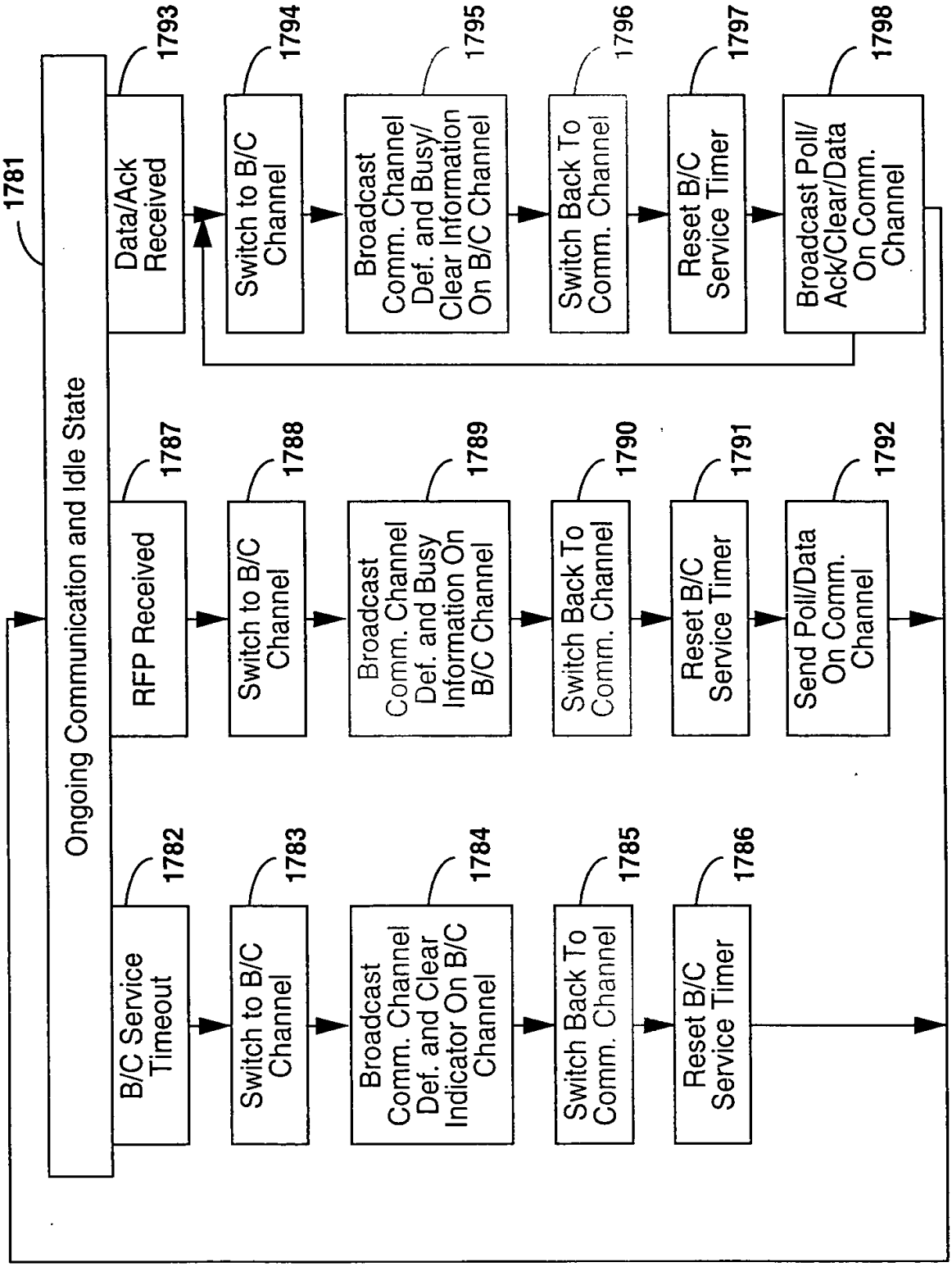
1781
Ongoing Communication and Idle State
B/C Service Timeout
1782
Switch to B/C Channel
1783
Broadcast Comm. Channel Def. and Clear Indicator On B/C Channel
1784
Switch Back To Comm. Channel
1785
Reset B/C Service Timer
1786
RFP Received
1787
Switch to B/C Channel
1788
Broadcast Comm. Channel Def. and Busy Information On B/C Channel
1789
Switch Back To Comm. Channel
1790
Reset B/C Service Timer
1791
Send Poll/Data On Comm. Channel
1792
Data/Ack Received
1793
Switch to B/C Channel
1794
Broadcast Comm. Channel Def. and Busy/ Clear Information On B/C Channel
1795
Switch Back To Comm. Channel
1796
Reset B/C Service Timer
1797
Broadcast Poll/ Ack/Clear/Data On Comm. Channel
1798

FIG. 25c

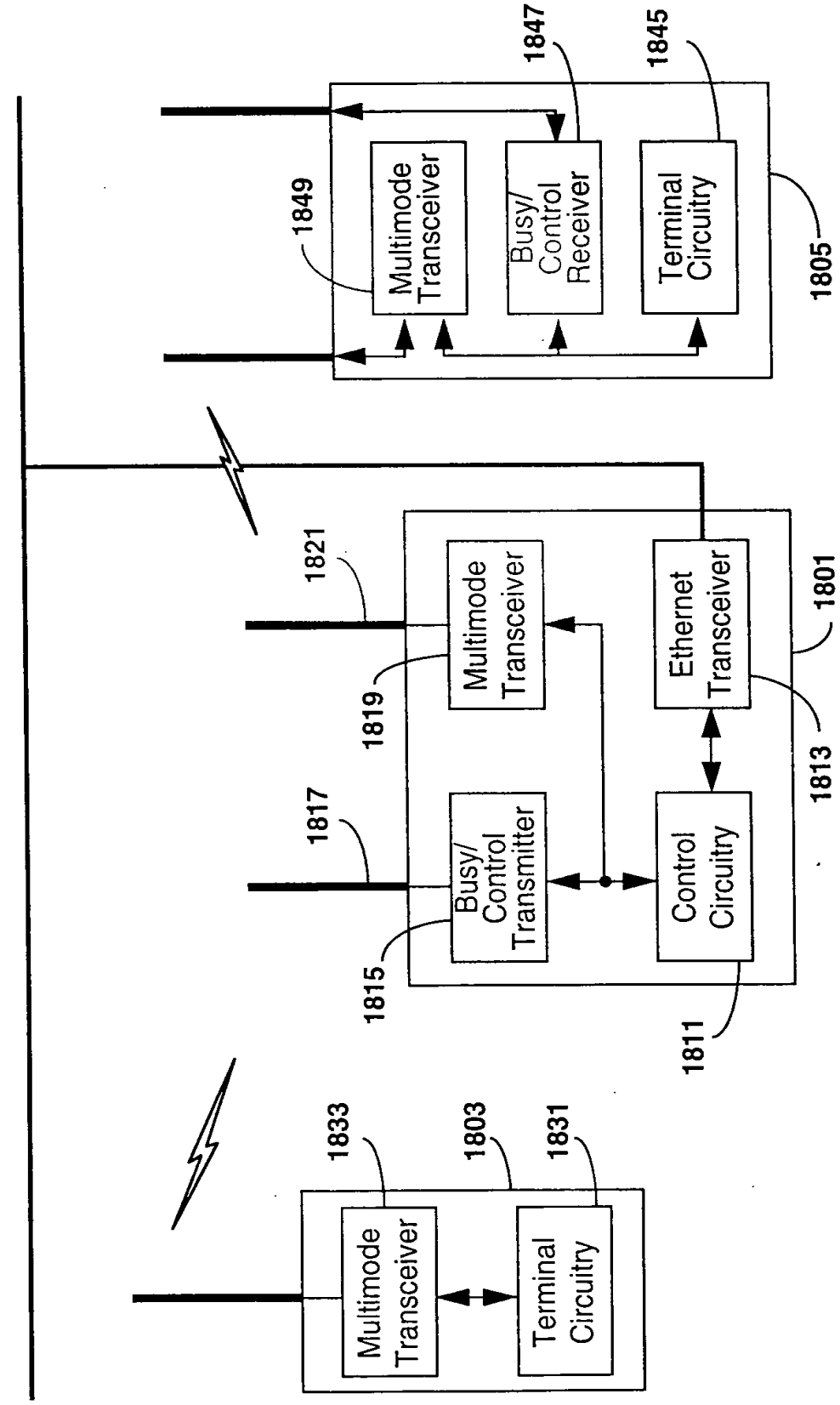
1847
1845
1849
Multimode Transceiver
Busy/ Control Receiver
Terminal Circuitry
1805
1821
1819
Multimode Transceiver
Ethernet Transceiver
1801
1817
1813
Busy/ Control Transmitter
Control Circuitry
1815
1811
1833
1803
1831
Multimode Transceiver
Terminal Circuitry

FIG. 26a

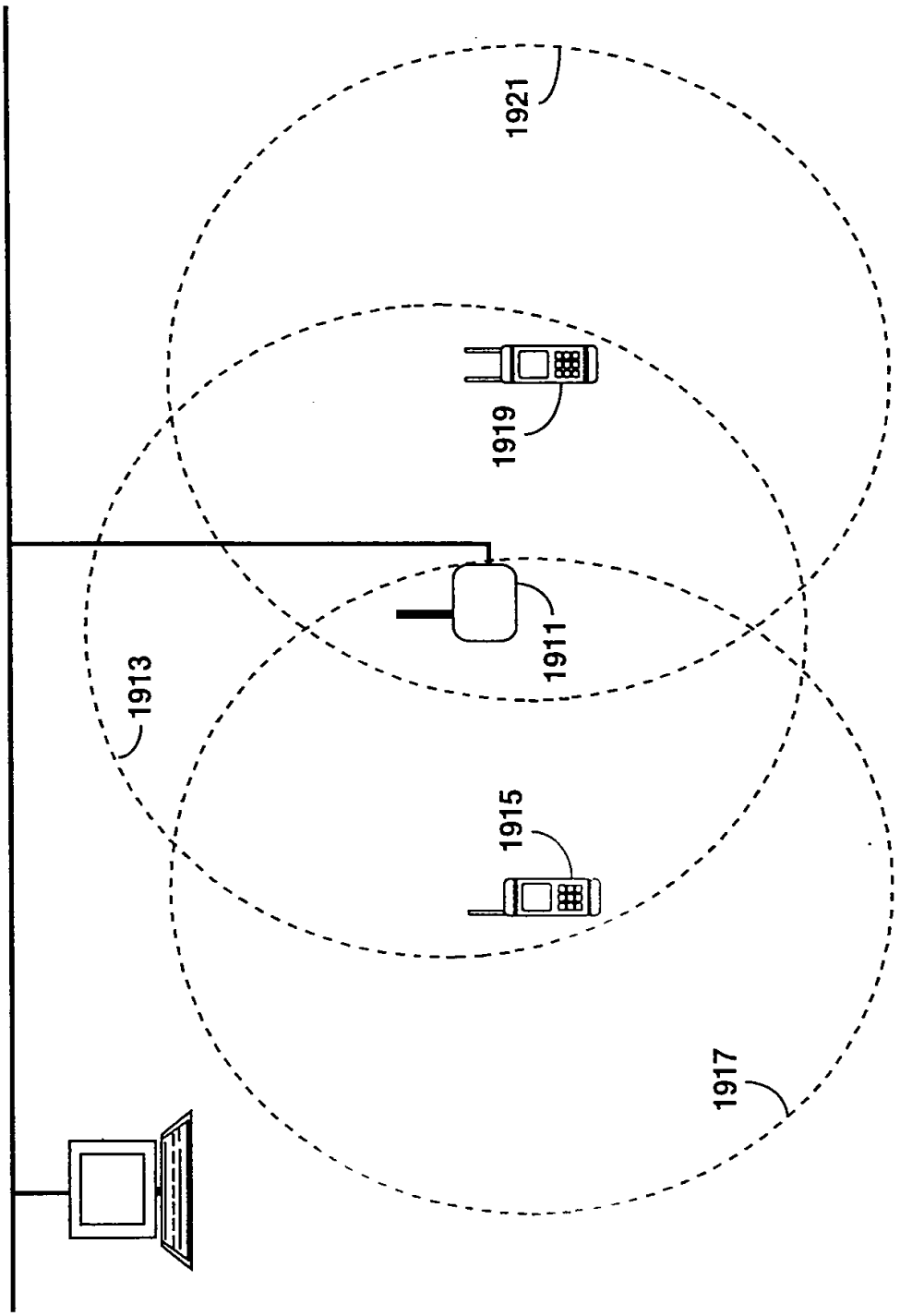

FIG. 26b

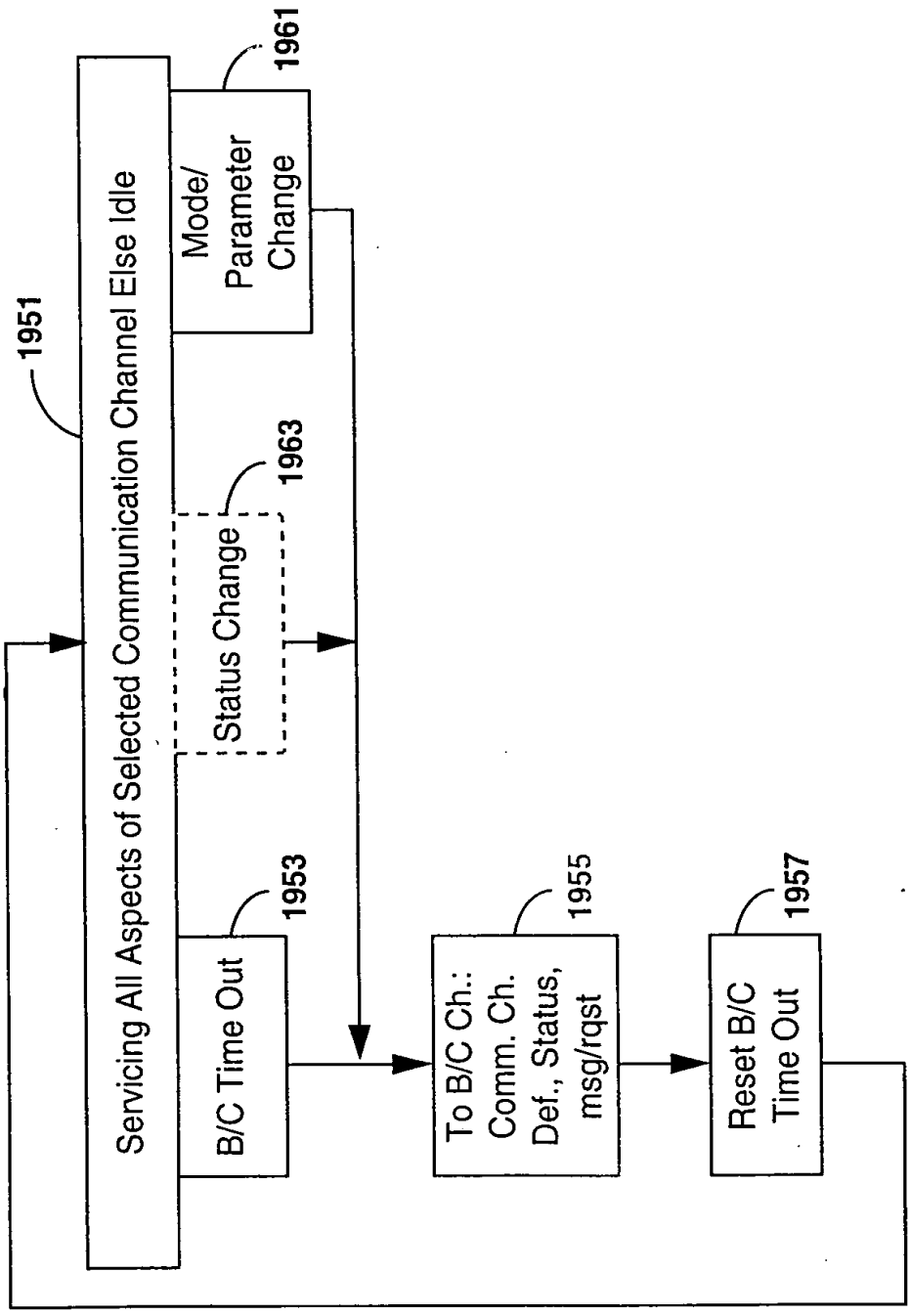
1951
Servicing All Aspects of Selected Communication Channel Else Idle
1953
B/C Time Out
1955
To B/C Ch.: Comm. Ch. Def., Status, msg/rqst
1957
Reset B/C Time Out
1961
Mode/ Parameter Change
1963
Status Change

FIG. 26c

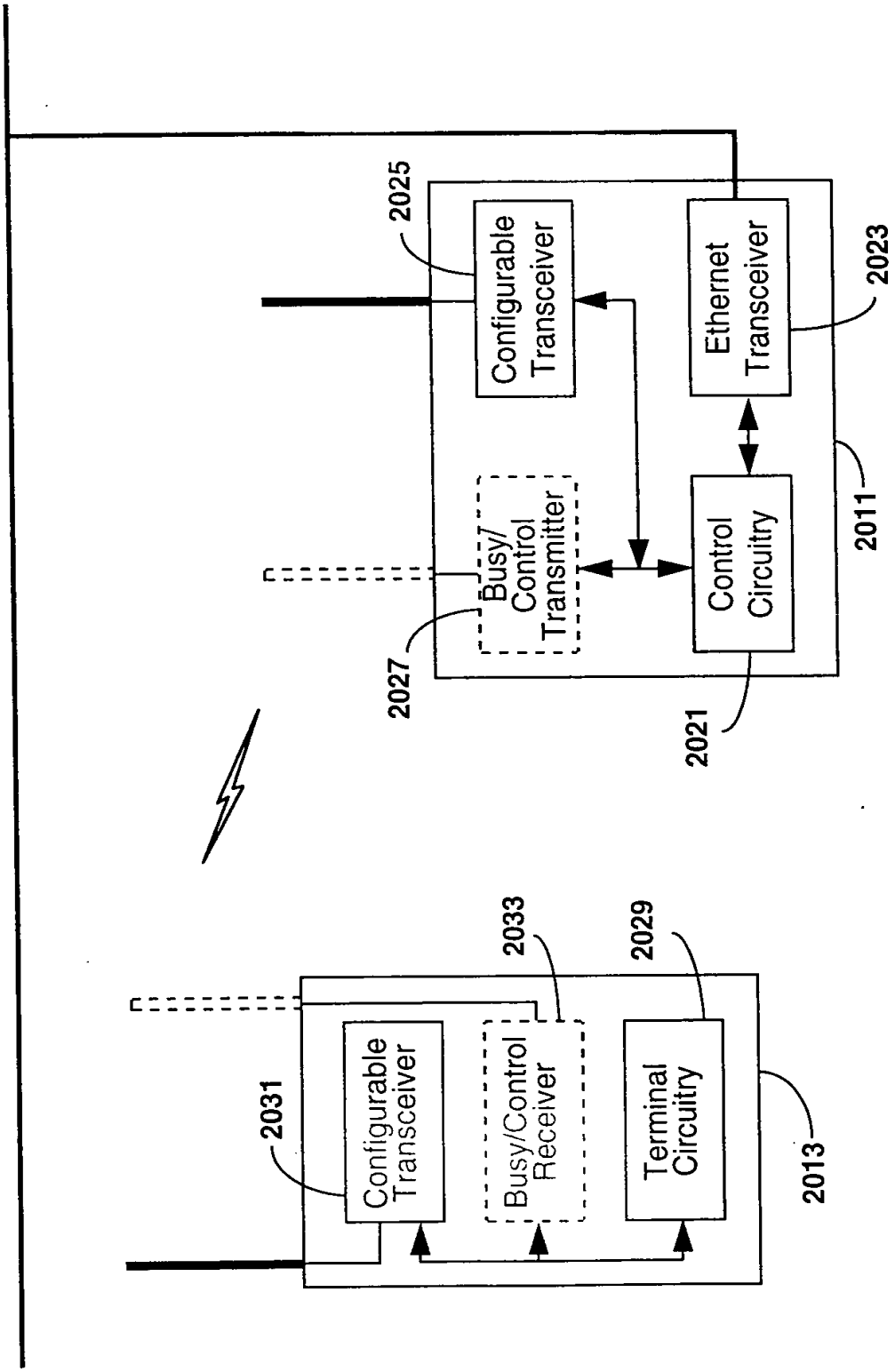
2025
Configurable Transceiver
Ethernet Transceiver
2023
Busy/ Control Transmitter
Control Circuitry
2011
2027
2021
2033
2029
2031
Configurable Transceiver
Busy/Control Receiver
Terminal Circuitry
2013

FIG. 27